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Embryologic Operation and Forced Extraction in Dystokia of Large Animals

By J. V. LACROIX, Obstetrician, K. C. V. C., Kansas City, Missouri

DYSTOKIA occurring in the large animals, as met by the practitioner, exists under conditions that are quite variable. Many abnormalities are found existing at the time of labor. For example, any of the following conditions may obtain: Any conceivable type of injury to the parturient animal—the result of previous interference by unskilled operators; protracted labor in weak subjects without complications; protracted labor with the fetus emphysematous; fetal dystokia with the fetus fatally injured because of unskilled interference and prostration of the laboring animal in mud and filth, rendering proper attention difficult, if not impossible.

In addition to the aforementioned conditions, there are found many other forms of dystokia, both maternal and fetal. Depending upon the complexity of the pathological condition in existence, there is a greater or less demand upon the veterinarian as to direction of efforts destined to give relief, if such effort is deemed practicable from an economic viewpoint.

It is no difficult matter for the experienced and established practitioner to advise against interference in certain cases of dystokia and convince his client that it is for the best. However, the veterinarian who has not established a reputation in a community is occasionally expected to accomplish feats that are not only difficult and time consuming, but which must necessarily result in the subsequent loss of the subject.

Case reports will exemplify this statement. In April 1905, the writer was called to see a scrub heifer which had been in labor about forty-eight hours. Subject was down and too weak to stand. Upon examination, it was found that the fetus was emphysematous, the birth passage was dry and there existed lacerations involving much of the mucosa of the lateral and inferior walls of the vagina and vulva. This was the result of attempted assistance on the part of the owner and others. The presentation of the fetus was anterior, position dorso-sacral, with head deviated laterally. After three and a half hours of work, the delivery was completed, but the heifer died the following day.

For the relief of dystokia, a classification of the modes of procedure may be grouped under two heads, viz: embryologic operations, which include manual correction of abnormal presentations or positions and embryotomy; and forced delivery by means of traction. (Cesarian section is not considered here.)

Of the various embryologic operations, the ones performed without resorting to embryotomy are productive of the greater percentage of recoveries of parturient animals. This is true even where a considerable amount of force is employed in effecting delivery, because labor is not, as a rule, greatly prolonged and the average

operator is better fitted to execute delivery in this manner, than he is to complete an embryotomy. Moreover, unless the operator is a master of technic, injury may be done to some part of the birth canal or the uterus, resulting more or less unfavorably. Incidentally it is worthy of note, that bad results following an embryotomy, even though skillfully executed, are frequently ascribed to the instruments employed. This view is the one usually taken by the client who is a bad loser and the veterinarian is often unjustly censured in such cases.

Manual correction of an abnormal presentation or position, with the proper adjustment of extremities, is often easily effected, if the subject can be kept in the standing position. Failing in this, it is best to employ an anesthetic, that any existing abnormalities in the way of fetal dystokia, may be corrected. After having properly secured the parturient animal, surgical anesthesia may be employed. Such anesthesia is in many cases sufficiently prolonged, without continuing the administration of the anesthetic, to allow the operator to correct the malpresentation or malposition. With complete relaxation of the uterus and cessation of labor, obstetric manipulations are very greatly facilitated. Therefore, in many cases of dystokia, in the mare, experience teaches that we are justified in employing general anesthesia, when labor antagonizes or materially interferes with the efforts of the operator.

The writer once attempted for more than an hour to correct a malposition in a parturient mare, without anesthesia. The case was one wherein presentation was normal, but the head was deviated dorsally. Conditions were such that correction of the condition would have been easily accomplished, but for the forceful uterine contractions, which were sufficiently frequent to foil each attempt at correction. The client had previously suffered the loss of a horse, the result of chloroform anesthesia, and knowing his aversion to anesthetics, it was thought advisable to omit anesthesia in this case. However, after much energy had been uselessly expended, the mare was anesthetized and the malposition was easily corrected in less than five minutes.

The bovine is usually controlled by simply elevating the hind quarters. This we find renders anesthesia unnecessary, as in this manner labor is practically held in abeyance. Because of the position of the subject, repulsion of the fetus is also greatly facilitated.

Embryotomy is indicated in all cases of fetal dystokia wherein manual correction of presentation is not possible; where the fetus is emphysematous and maternal pelvic diameters are small; in protracted labor where forced extraction would probably result unfavorably, because of the existence of an abnormally large fetus, or a monstrosity; and where irreparable malconformations exist.

Before an embryotomy is begun, a complete diagnosis of the conditions existing should be made. The technic of the operation should be planned in detail and the mode of procedure should be one which is known to be practical as to its execution and results obtained thereby. For instance: where a complete embryotomy is necessary, a subcutaneous operation, properly executed, will not endanger the mucosa of the birth canal, as the skin of the fetus remains almost intact. The removal of ribs in this manner in no way injures the parturient animal.

Forced extraction is defined by Williams (Veterinary Obstetrics, p. 640) as "the withdrawal of the fetus from the mother, through the genital canal, by the application of traction without changing the position of the fetus, or any of its extremities which may be deviated, or reducing its size." Forced extraction, as hereinafter alluded to, implies the application of force sufficient to effect delivery, after having corrected malpresentations or malpositions and this, with or without the use of lubricating agents upon the birth passage.

The application of force to effect delivery of a fetus is indicated in all cases where reposition of misdirected extremities has been effected and the repulsive powers of the patient are insufficient to complete parturition. This in cases where the size of the fetus and birth passageway are about proportionate and serious complications, such as lacerated or ruptured genitalia, are

not present. Force may be safely used in certain cases where one or more extremities are misdirected, but in such cases, the extremity that permits of this manner of delivery, might have been properly directed and, as a rule, without difficulty. In some cases it is possible to deliver a foal with one front leg directed backward, but as a rule, the misdirected extremity should be placed in position, even though the repulsion of the fetus is affected with difficulty. The amount of force which may be safely employed depends upon the manner in which it is employed and upon the subject.

Traction that is slowly and carefully exerted, as by means of compound pulleys, is not so likely to result disastrously as traction employed by means of the combined strength of a number of assistants. Experience teaches that much more force may be employed in a subject where uterine contractions are forceful, than when such contractions are not present, as there is less danger of uterine eversion. Also vaginal lacerations are not apt to occur. Traction in such cases should be employed only during the periods of uterine contraction. Large doses of quinine with strychnine often stimulate forceful uterine contractions and may be advantageously employed where sufficient time is allowed for these agents to act.

Where there is no evidence of labor in a parturient animal and exhaustion is not the cause, it is well to look for lacerations of some of the genitalia. Occasionally a laceration of the vaginal wall exists and this may escape observation until delivery has taken place. If such lacerations involve parts which might occasion fatal complications, it is best that they be found before labor is assisted, that the owner or attendant be notified of the existence of such injuries; as otherwise the obstetrician will be blamed for making them and held responsible for their sequella.

A grade Clydesdale mare, having been noticed in labor by the owner and as parturition was not progressing after a few hours, assistance was thought necessary. Examination revealed the presence of a large rent in the lateral wall of the vagina, without other abnormalities in existence. In fact, aside from this laceration, conditions were such that spontaneous delivery should have occurred. When a little force was applied to extract the fetus, uterine contractions were but mildly stimulated. Recovery of the mare was uneventful and the foal lived and thrived.

An old Jersey cow, having been affected with a vaginal discharge for several days, was thought to have aborted by the owner and as her general health seemed to be affected, attention was given her. Examination of this case revealed the presence of a rent in the vaginal wall at its inferior surface and near the os uteri. The cervix had partially closed and labor had subsided. Further examination of the subject disclosed the existence of peritonitis and delivery was not attempted. The cow died within a few days.

Finally, in every case of dystokia it behooves the veterinarian to make a complete and careful examination of the existing conditions and then plan means of relief that are best suited. If such means include the assistance of a fellow practitioner, he should inform his client of this feature, setting forth reasons for so doing.

In a case of dystokia in a mare, a chunk weighing about thirteen hundred pounds, the writer, after having made a careful examination of conditions as they were presented, we decided that trained assistance was necessary.

At my request Dr. F. M. Baldwin, Horton, Kansas, was called and after about two hours of work, delivery was completed with the parturient animal under anesthesia. The subject made a complete recovery, the client paid a fair fee and was well pleased with the results, which would, in all probability, have been less happy had the average practitioner attempted delivery unaided.

Many obstetrical cases are lost because of single handed attempts of relief executed by practitioners, who are in no physical condition to carry out operations attempted, because of loss of sleep, fatigue, or misdirected efforts. Hasty attempts at delivery, when not properly planned, are more likely to fail than delayed interference that is well executed. Patience, care and ample time in the examination pays well.

Lobelia in Veterinary Practice*

By J. E. TURNER, Kenton, Ohio

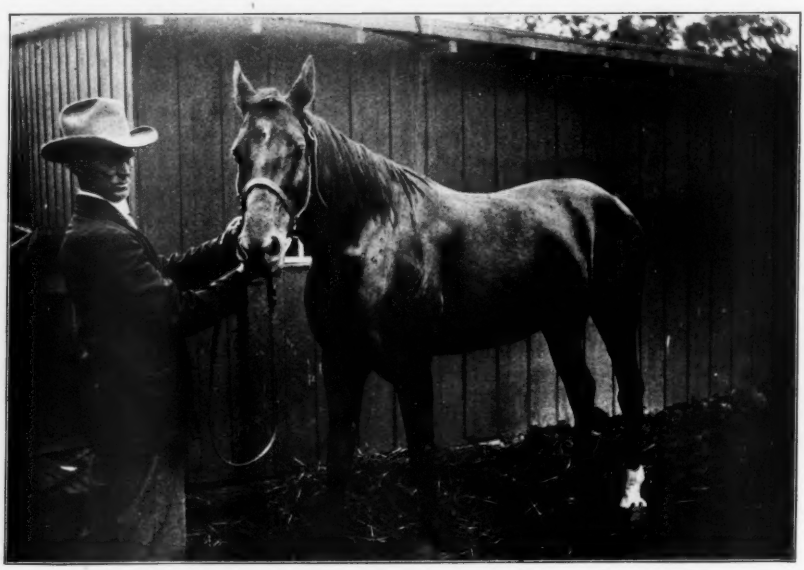
WE are indebted to Dr. Samuel Thompson of Alstead, New Hampshire for the discovery of this drug, which has held a prominent place ever since, among the most useful botanical drugs. At the time of its discovery (1773) lobelia was called the "emetic herb." Doctor Thompson was the first quack of the medical profession to be prosecuted, or persecuted, as you please to term it. If this man had not used lobelia in the way in which he did, this drug might have remained unknown for a great many years longer.

A quack, to my notion, is a vain, artful, tricky practitioner of medicine; his chief merit consists in his self-importance and arrogant behavior toward those who have been less fortunate than himself in degree or wealth. He is more concerned in separating his client from his money than in relieving his patient of his suffering.

I have made it a rule to take hints from anyone, even from a "swipe," if I think he can teach me anything, and to do as much thinking for myself as possible. As the little rhyme goes:

> "Think for thyself; one good idea
> If known to be thine own,
> Is better than a thousand, gleaned
> From fields by others sown."

Great credit is due the eclectic, Dr. E. Jentzch of Chicago, for the introduction of the hypodermic use of lobelia, from which the results in both human and veterinary medicine have been most fruitful.



A TYPICAL CASE OF TETANUS

The parts of the plant used are the dried flowers and seeds of lobelia inflata, natural order, Campanullacea. It was once called "bladder pod" or "inflated lobelia," also "wild tobacco," and "Indian tobacco."

Action. Lobelia is a cathartic, diaphoretic, emetic, expectorant and narcotic. The commercial lobelia consists of the stems, leaves, seeds and inflated capsules of the plant.

Pharmacopeial Preparations. These are

*Read at the North Western Ohio Veterinary Association, Toledo, O., February 25, 1913.

acetum lobelia, tincture, fluid extract, and hypodermic lobelia. The latter seems to be of particular interest to the profession just now.

Hypodermic lobelia is a tincture made from Lobelia syphilitica; only the leaves are used. Lobelia syphilitica is not found in commerce because, until of late, it was thought to have little, if any, medicinal value. My experience with this preparation is that there are but few of the diseases which we have to treat, in some stage of which we cannot use hypodermic lobelia to advantage.

Lobelia in the Treatment of Tetanus

Tetanus: Its use in this disease fills a long felt demand for a successful sedative. Where there is not too much trismus or dysphagia present, there are but few cases that will not respond to this, used in conjunction with the antitetanic serum.

The first few doses I administer intravenously, I think I thus get quicker and better results than from its subcutaneous use.

The sedative action is better than that of any other agent that I have employed, in that it makes the horse almost totally oblivious to its surroundings. Horses receiving lobelia may be stabled along with other horses and they will not be disturbed by them. If they are eating when brought to you, you can keep them eating. If you can keep them eating they will recover. Some I understand use lobelia as an entire treatment but I use it only in conjunction with the tetanus antitoxin.

Lobelia in Mycotic Enteritis

I have used lobelia, with very good results in mycotic enteritis. It relieves the brain symptoms, and aids the excretory functions of the body. Its relaxant effect is twofold, since it acts on both the voluntary and involuntary muscles.

Lobelia in Pulmonary Emphysema

Heaves. In the humid form of when the mucous râles are loud and the sense of suffocation is due to the mechanical obstruction by the mucous, and constant spasms of the bronchi are present, will be given almost magical relief by large and repeated doses of hypodermic lobelia.

Pneumonia

The sedative and expectorant action of lobelia, where there is a dry, painful cough makes it very beneficial in this disease.

Azoturia

Lobelia is no less effective in this disease than other cases I have cited. Its quieting effect here is very salubrious.

Caution

Do not understand however that I am of the opinion that a good supply of lobelia and an abscess knife is all that is necessary to carry on an extensive practice.

ARTICLES ON CATTLE PRACTICE WANTED

Some of our subscribers are asking for more discussions of the diseases of cattle and the problems of diary practice.

This is a phase of veterinary practice that is increasing in importance very rapidly and about which literature is all too meagre. Let us have articles on this subject from those experienced in work of this kind. Half a dozen to start with will bring replies and further discussions that will run us for many months. Who will be the first to start it?

EFFECTS OF A WIRE

Enlarged coronary band in a four-year old colt. The foot is twenty-one inches in diameter and has had no treatment. The horse is very lame. The photograph was taken by Dr. J. C. Jirikowic, Souris, N. D.

External Parasites of Birds

By B. F. KAUPP, M. S., D. V. S., Chicago, Illinois

EDITOR'S NOTE.—There are few industries in this country larger than the poultry industry. Birds, as other animals, are subject to disease. Scientific knowledge and training are as necessary for the proper treatment of the diseases of birds as for the treatment of diseases of man and other animals. Because of their knowledge of comparative medicine veterinarians are best adapted for this work, and the great economic importance of the poultry industry makes attention to poultry pathology well worth the while of most practicing veterinarians. Doctor Kaupp has for many years devoted much time to the careful investigation of poultry diseases. In a series of articles now beginning in VETERINARY MEDICINE *this subject will be dealt with scientifically for the first time in a periodical. The articles will be so divided and classified that readers may, without difficulty, find any particular subject in which they may be interested, without having to read through that which does not interest them. The article this month completes the discussion on external parasites. Next month Doctor Kaupp will deal with one or more of the important intestinal diseases of birds. Requests for information regarding poultry diseases should be directed to Doctor Kaupp, in care of* VETERINARY MEDICINE, *1761 Lawrence Avenue, Chicago. Answers will appear in* VETERINARY MEDICINE*; no questions can be answered by mail.*

THE external parasites affecting birds consist of *lice*, which infest all ages and breeds; *scab parasites*, producing scaby legs; the *air sac mite*, which is a modified scab parasite and infests the air sacs; the *chigger* (chigoe or jigger) or red mite, a great pest in the hot summer months; a distinct bird *flea*; the *chicken bugs*, which in many respects resembles the common bedbug,

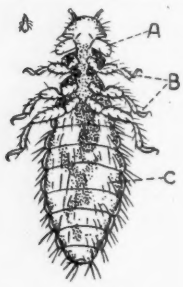


Fig. 2

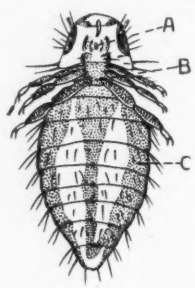


Fig. 3

FIG. 2. MENOPON BISERIATUM
A, head provided with mouth parts for biting, feelers (antennae) and eyes. B, legs attached to the thorax. C, abdomen

FIG. 3. MENOPON PALLIDUM
A, head. B, thorax provided with three pairs of legs. C, abdomen with hairs

and the *ring worm*. In all, seven different classes.

LICE OF BIRDS

This embraces a group of biting lice, their bodies are flat and their mouth parts are arranged for biting and cutting. They live upon feathers, epidermis and secretions of the body of their host. As may be noted in Fig. 1, the mouth parts are located just back of the antennae and are not always visible. The antennae or feelers consist of five articles or joints each. The thorax in some species is long and narrow, in others short and globular. They are provided with three pair of legs which are attached to the thorax. The free extremity of the legs is provided with two hooklets or claws which enables them to hold on to their host. The body and legs may be covered with a greater or less quantity of hair or bristles.

The lice of birds are placed under the following genera: Menopon, Goniodes, Goniocotes, Lipeurus, Docophorus and Nirmus.

Lice of Chickens

Menopon biseriatum. (The large chicken louse.) This is the largest louse found upon chickens. It is about one-twelfth of an inch in length. It is light in color: Fig. 2 illustrates this louse much enlarged. The short mark at the right shows the actual length of this louse. This parasite is common on the heads of young chickens.

Menopon pallidum (the small chicken louse). This louse is illustrated in Fig. 3 and as may be seen is smaller than the M. biseriatum. In some parts of the country this louse is the more common of the two and is a source of considerable trouble. This louse may spread from chickens to other animals and birds.

Goniodes dissimillia. This is a rather large louse and is apparently rare. The head is subquadrate, the thorax short and narrow and the abdomen large and globular.

Goniocotes hologaster.—The head is nearly quadrate, the thorax narrow and the abdomen short and globular. Fig. 4, illustrates this species.

Lipeurus infuscatus.—This is another louse that may infest chickens. It has been studied in the author's laboratory and has also been reported by Osborn as occurring in Iowa. However, it is not very common. Fig. 5 illustrates this louse.

Lipeurus variabilis.—This louse is long and slender. The front part of the head is rounded, the thorax a trifle narrower than the head, the abdomen long and thin.

Lice of Turkeys

Goniodes stylifer (the common turkey louse).—This is the common turkey louse. Its head is well rounded in front, rather square cut with scallops behind; the thorax is narrow and the abdomen large and globular. Fig. 6 illustrates this louse.

Lipeurus polytrapezius.—This is a long, slender louse with two or three bristles extending from each segment of the abdomen. Its head is well-rounded in front and the thorax is rather broad and long.

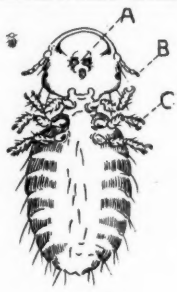


Fig. 4

Fig. 5

FIG. 4. GONIOCOTES HOLOGASTER
A, mouth parts. B, antennae. C, hooklets on the free extremity of the leg

FIG. 5. LIPEURUS INFUSCATUS
A, mouth parts. B, abdomen. The figure to the right of the head indicates actual size

Lice of Ducks

Menopon obscurum.—The head is crescent-shaped in front and the abdomen has dark, lateral bands. It is dark fawn-colored.

Lipeurus squalidus.—The head is narrow and somewhat elongated in front. There are six hairs on the front part of the head. This louse is common in some localities.

Lice of Geese

Lipeurus jejunus.—A slender, pale, yellowish-white louse. It is probably universally distributed.

Trinoton continuum.—This is a fairly large louse covered with few hairs. It is common on geese.

Lice of Pigeons

Lipeurus baculus (the common pigeon louse).—This is the common louse of the pigeon. It is long, slender, light-colored, and the abdomen segments provided with two or three hairs on each side. Fig. 7 illustrates this parasite.

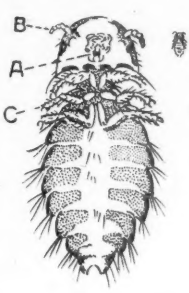


Fig. 6

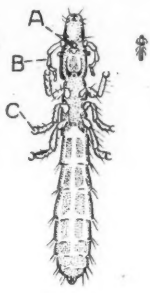


Fig. 7

Fig. 8

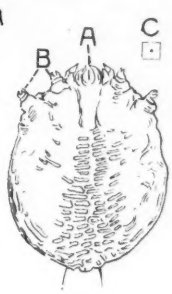


Fig. 9

FIG. 6. GONIODES STYLIFER
A, mouth parts. B, antennae (feelers). C, legs. The drawing to the right of the head indicates the actual size

FIG. 7. LIPEURUS BACULUS
A, mouth parts. B, antennae. C, legs. The drawing to the right of the head indicates the actual size

FIG. 8. EGGS OR NIT OF THE GONIODES STYLIFER (GREATLY MAGNIFIED)
A, egg cemented to the barbs of the feather

FIG. 9. SARCOPTES MUTANS VARIETY GALLINAE
A, mouth parts. B, short stubby legs. C, dot indicating the actual size of the parasite

Life History of Lice

The females of lice are slightly larger than the males. The females lay oval, white or whitish-yellow eggs (nits), and securely cement them to the barbs of the feathers. This is illustrated in Fig. 8. When the eggs hatch they break open at the end or a small cap is lifted from the end, in much the manner that a chick escapes from the egg. The young have much the same shape as the adults and are ordinarily considerably lighter in color. The males are usually less numerous than the females. If conditions are favorable the eggs hatch in from ten days to three weeks.

Effects of Louse Infestation

Chicks hatched in the incubator are free from lice and stay so until placed with lousy hens or chicks, or in lousy quarters. Lice produce much irritation. The effect of large numbers upon birds is quite marked. The lousy birds scratch, pick at the feathers, show signs of being drowsy, may refuse to eat, and in growing birds, the body development or growth is interfered with. Young chicks infested with lice often sit around,

moping, with wings hanging down, and in a week or two may die. For this reason brooder chicks should thrive better, grow faster, and are freer from many ailments than chicks hatched by the hen. It has been said that a lousy bird will have more

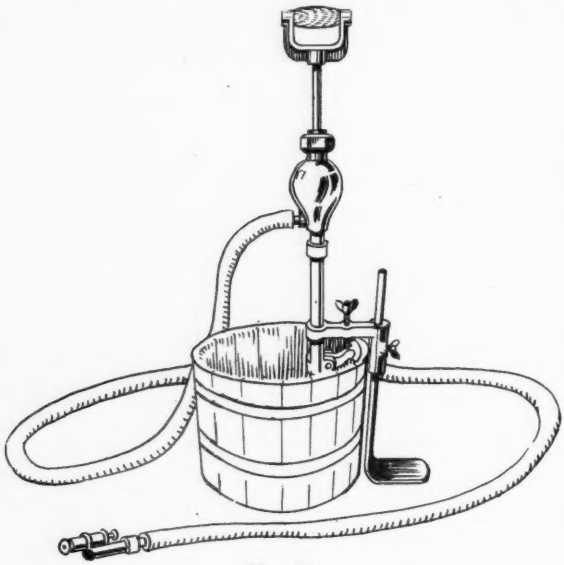


Fig. 10

FIG. 10. AN INEXPENSIVE, DURABLE SPRAY PUMP

of a tendency to wallow in the dust than one not so infested.

The effect upon older birds is not so severe as upon younger ones, but is noted in loss of flesh, and in the production of eggs. The irritation is sometimes so severe that hens desert their nests. Their combs may become dark or black. Birds unable to rest day or night, become emaciated and die. Part the feathers and the lice will be found running over the skin or base of the feathers.

A favorite location for lice is under the wings where the temperature is warm; but they may be found on any part of the body.

Lice may be found on birds at all seasons of the year but are most common in the hotter months of the year, July and August. In these months conditions are more favorable to their propagation.

Treatment of Infested Birds and Eradication

The chickens may be either dusted with insect powder or dipped in a preparation for destroying the parasites as we dip larger animals. A dusting powder composed of equal parts of pyrethrum and sulphur is an excellent one for ridding birds of lice; tobacco dust, which may usually be secured at any tobacco factory, may be added to the combination and perhaps, will increase its efficiency. An insect powder gun is needed for dusting the birds. This may be secured at almost any drug store. This powder should also be sprinkled in the dusting places of the infested chickens. Dusting places should always be provided. If it is the wish to dip the birds, prepare a five-percent solution of creolin, or the same strength of either zenoleum or kreso dip.

After freeing the flock from lice care should be exercised that a reinfestation is not brought about by the introduction of lousy birds.

The lousy henhouse should be thoroughly and frequently cleansed and the walls whitewashed. The whitewash should contain in it, some parasiticide as carbolic acid five percent, creolin five percent or corrosive sublimate one part in one thousand. The roosts should be scrubbed with boiling water and after drying in the sun, should be saturated with kerosene. The litter and straw should be removed from the nests and burned and one inch of air-slacked lime placed in the bottom of the nests before refilling them with straw. If the henhouse be tightly closed, doors, windows, cracks and all openings, and thoroughly fumigated with sulphur it will aid in destroying lice or other parasites that may be in the cracks and crevices, and difficult to reach with whitewash. Fig. 10 illustrates a cheap and convenient spray pump for applying the whitewash. With this some force is used which drives the parasite-destroying fluid into the cracks

and crevices not possible to reach where it is applied with a brush.

Scabies in Birds

There is one form of scabies called depluming scabies that is very rare and so far as the author knows, has not been reported in this country. It effects the body of both chickens and pigeons. The one on chickens is the Sarcoptes laevei variety gallinae and the one on pigeons is the sarcoptes laevei variety columbae.

Scaly Legs (Scabies of the Legs)

This condition is very common; it constitutes leg scabies, and is caused by a parasite called the *Sarcoptes mutans* variety *gallinae*.

Sarcoptes Mutans

Description: This parasite is one of the same family of scab parasites that infest horses, cattle, hogs, sheep and cats. That particular branch of the family affecting chickens is distinguished by calling it "variety gallinæ"; gallinæ being a Latin word meaning "of chickens." Owing to the small size of the parasite it is often called a mite. Fig. 9 illustrates the parasite magnified 100 times, the actual size of the parasite is shown by the small dot in the square at the right side of the drawing. In the drawing it will be noted that the legs are short and strong and that its mouth parts are arranged for biting the skin. They subsist upon serum that exudes at the point of attack and forms scales or scabs (see Fig. 11).

Life History: The female lays her eggs under the scabs where in about ten days they hatch, if conditions are favorable. The larvæ or young mites are now provided with three pair of legs and are not provided with sexual organs. They pass through several moults and are finally developed into the adult stage, and at that time are provided with four pairs of legs, with genital organs and are sexually mature.

The tearing off of the scabs favors the escape of the parasites, which in warm weather may live in the filth, roosts, nests or other parts of the building for at least thirty days, and may in that time find their way upon other birds and infest them, causing in turn scaly legs on the new host. Thus birds become affected by being placed in infested quarters, or by having an infested bird placed in the same lot or enclosure as at poultry shows, where should any of the birds there be infested.

Conditions Produced. This parasite attacks chickens, turkeys and cage birds but the writer has not observed infesting ducks or geese. It always attacks the unfeathered portion of the legs above the foot and often the upper portion of the toes. The minute parasite crawls under the scales of the legs and there irritate the tissue by attacking it with its strong mouth parts. As a result of this irritation a vesicle or small blister appears. The blister is practically microscopic in size and later ruptures. This small quantity of serum dries and forms a minute scale. These scales accumulate until later large scaly masses

Fig. 11

Fig. 11. A Case of Scaly Legs (Scabies)
A, mass of scabs due to the dried serum that exudes from the injured part. B, scale of the leg forced up and out of place by the accumulation of dried serum

appear. Fig. 11 is a good illustration of this condition.

The parasites can be found as minute white specks in the serum between the scab and leg. Both legs are usually affected at the same time. Itching is present and the birds may be noted to pick at the parts. Itching is more intense at night, the bird may be weak, stop laying and even may die.

Treatment. Eradication. The scaby patches should be soaked with soapy water till the scabs can be easily removed (this will take time but in valuable birds it will pay, if the value of the bird will not justify this expenditure of time and labor, kill the bird and burn the affected parts, the legs and feet). After removal of all scabs possible, scrub thoroughly with kerosene or kerosene emulsion, using a nail brush and being sure that the fluid reaches the deepest parts.

Kerosene emulsion is made as follows: Kerosene (coal oil) one-half gallon, common soap two ounces, water one quart. Dissolve

the soap by boiling in the water, add this solution boiling hot to the kerosene and stir with an egg beater. When ready for use take one part of the emulsion and add to this nine parts of water.

Lime-and-sulphur dip.—This well-known parasiticide used warm and scrubbed thoroughly under the scales is very effective. The lime and sulphur dip is made as follows: Unslacked lime, one-third of a pound, sulphur, one pound, water, four gallons. This mixture should be *boiled* for *two hours* and the amount lost by evaporation made up by adding water. The lime acts as a solvent for the sulphur and the dissolved sulphur is a valuable parasiticide.

Commercial Disinfectants. Five per cent solution, in water, of creolin, zenoleum, or kreso dip is also effective. These solutions should be used warm.

Premises. For the eradication of scab parasites from infested premises follow the directions given for ridding premises of lice.

Fig. 12

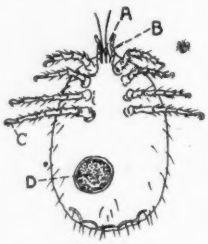


Fig. 13

FIG. 12. CYTODITES NUDUS

A, rostrum. B, ambulacrum. C, pedicle of the ambulacrum

FIG. 13. TROMBIDIUM HOLOSERICEUM

A, mouth parts. B, palpi. C, hooklets on free extremity of the leg. D, uterus filled with eggs. The figure to the right indicates the actual size

Air-Sac Disease

This very serious malady of birds is fortunately rather rare in this country. It is exceedingly difficult to eradicate once it is established in a flock. It is due to a scab parasite called *Cytodites nudus*, synonyms for which are: Cytoleichus sarcoptides Cnemidocoptes mutans, and air-sac mite.

Cytodites Nudus

Description: The body of this parasite is ovoid in shape as illustrated in Fig. 12. It is whitish in color and is provided with conical shaped mouth parts through which it sucks fluids from the parts infested. The legs are rather short, conical, and in both male and female all are provided with suckers, which aids in moving about and in holding on. The legs are composed of five articles, segments or joints each. The larva is provided with three pairs of legs and the adult with four pairs.

Life History: The ovigerous female lays eggs, as a rule, but at times has been noted to deposit eggs ready to hatch and even young larvæ. The larvæ pass through changes similar to those of the scaly-leg mite by moulting several times, and finally reaching the adult or sexually developed stage.

Symptoms. The air sac mite infests the abdominal air sacs, the air sacs of bones and the air cells (alveoli) of the lungs of chickens and pigeons. If only a few parasites are present no symptoms may be noticeable, but if they exist in large numbers serious results may follow. The bird will be thin in flesh and even to emaciation, will appear dull, stay apart from the others of the flock, and the comb will usually be pale in color. The wings will droop and there will be labored (heavy, difficult) breathing. Coughing may occur and there be noted a rattling of mucous (rales) in the trachea or bronchi.

Postmortem Appearance. By a careful examination of the infested air sacs or the bronchi and sacules of the lungs the mite may be found appearing as a minute, white speck about the size of the scaly leg parasite. The specimen from which the accompanying drawing was made was kindly sent to the author by Dr. W. B. Mack, Reno, Nevada, who obtained it from a flock of birds examined in New York. Besides the white specks moving on the surfaces of the air sacs whitish-yellow points due to the irritation caused by the parasite may be found. The bronchi may be congested. In severe cases inflammation or bronchitis and even pneumonia may exist.

The air-sac mite has also been reported as infesting the liver, kidneys and other abdominal organs in which cases they produced yellowish pearl-like nodules or tubercles.

An outbreak of this disease in Colorado was studied by the author during the spring of 1912, in which several birds in a flock of sixty became ill. They were dull and weak, with a partial loss of appetite and a tendency to crane their necks when they tried to swallow, became poor in flesh and after one to two or three weeks died. The comb,

in most instances, turned black shortly before death.

On autopsy there were found myriads of small, yellowish-white specks over the abdominal air sacs, lungs and trachea. These specks, when examined under the microscope, proved to be the air-sac mite (Cytodites nudus) as illustrated in Fig. 12.

Treatment. It is said that sulphur given with the feed will be absorbed and eliminated by the lungs, in sufficient quantities to kill the parasite that infests that part but the value of this treatment is doubtful. A better method of handling an outbreak of air-sac disease among birds of average value is to kill all the birds in an infested flock. None sold so that they may find their way into other flocks and infest them. It is a very serious disease and one of which it is difficult to rid the flock.

taken into the digestive tract. During the summer of 1911 the author observed one infested flock of chickens in which the affected birds showed symptoms similar to birds infested with lice. The birds became unthrifty, ceased laying, setting hens deserted their nests, all exhibited unkempt appearance of the feathers and many died.

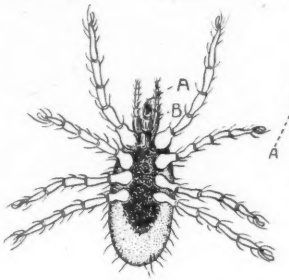


Fig. 14

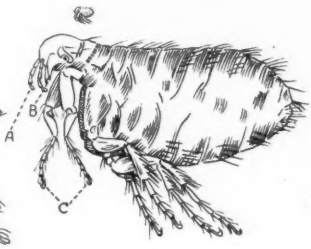


Fig. 15

FIG. 14. DERMANYSSUS GALLINAE
A, conical shaped rostrum. B, palpus

FIG. 15. PULEX AVIUM
A, antennae. B, stylette. C, hooklets on the free extremity of the leg

Chigger (Jigger) or Red Mite Infestation

There are two varieties of chiggers found in this country, one is the *Trombidium holosericeum* the other the *Dermanyssus gallinae.* The former is the more common.

Trombidium Holosericeum

This parasite is the common chigger (jigger) or red mite of the henhouse.

Description: It is very small as indicated by the mark by the side of Fig. 13. The body is oval in shape (shape of a hen egg); it is provided with four pairs of legs in the adult state and three pairs in the larval. The distal end of each leg is provided with two hooklets or claws with which it clings to objects and which enables it to crawl about. Its mouth parts are conical in shape as illustrated in the drawing. (See Fig. 13.)

Life History: Mites lay their eggs in the cracks and crevices and filth of hen houses. If the temperature is warm the eggs hatch in a few days into the asexual, six-legged state. After passing through a few moults it arrives at the eight-legged, sexual or adult state. The parasite multiplies very fast in the warmer parts of the summer, July and August, when conditions are more favorable for their propagation.

Condition Produced. By means of its conical mouth parts, referred to above, it wounds the skin and sucks blood. The engorged parasite is blue to red in color, depending upon the quantity of blood

Many were found dead under the roosts of mornings. Examination of the nests, roosts and birds revealed millions of the parasites. This was in the month of August.

Treatment; Eradication: The same treatment as for lice will be found very effective. Absolute cleanliness, plenty of kerosene repeatedly applied to the roosts, air-slacked lime on the floors, and in the bottom of the nests.

Dermanyssus Gallinæ

Description: By referring to Fig. 14 it will be seen that the body of this parasite commonly known as the mite chigger, differs from the Trombidium holosericeum in that it is ovopyriform in shape instead of oval. The diameter of the posterior third is greater than that of the anterior third. The abdomen and legs are provided with rather short bristles. Its mouth parts are conical in shape and arranged for injuring the skin and sucking blood. The color varies according to the amount of blood contained within the intestinal tract, varying from yellow to a yellowish-red. The free extremity of the legs are provided with an apparatus which enables them to hold on or cling to objects and to move about rapidly.

Life History: The female, like the female of the preceding genus, lays her eggs in the cracks and crevices and filth of the floors and nests, where they hatch out in a few days, if the temperature be favorable. The young, six-legged asexual larva goes through several moults, finally maturing into the adult, sexual, eight-legged parasite.

Condition Produced. This parasite lives in the poultry houses and dove-cotes,

hiding in the straw of nests, cracks and crevices of the roosts, and other places of concealment in the day time. It comes out at night and makes its attack. Few of these parasites are to be found on the birds (chickens and pigeons) in the day time, but at night they may be numerous. Birds so harrassed at nights cannot sleep or rest and soon become emaciated. The laying hens will leave their nests and even cease laying and birds may be found dead under the roosts in the mornings.

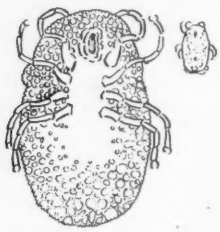


Fig. 16

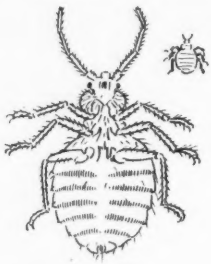


Fig. 17

FIG. 16. ARGAS MINIATUS
A, mouth parts. B, fore legs. C, one of the pits which marks the dorsal and ventral surfaces
FIG. 17. ACANTHA INODORA

These parasites may also attack horses and other animals kept close to the quarters of infested birds, they cause irritation, the animal scratches, rubs and unable to rest at nights, becomes thin in flesh and weak.

Treatment. The same as has been outlined for lice and chiggers.

Flea Infestation

The chicken flea is known technically as the *Pulex avium*. It is far more common in the southern half of the United States than it is in states further north.

Pulex Avium

Description.—This is the common chicken flea. It resembles to some extent the flea that infests dogs and man; however, a microscopic study shows it to be a distinct species. Fig. 15 illustrates this parasite. It is provided with antennae or jointed feelers. In the larval state its mouth parts are arranged for mastication and in the adult for wounding the skin and sucking blood. It is flattened laterally, the thorax being a trifle deeper than the head and is provided with three pair of legs of which the posterior pair are longer than the others, giving the insect great power to jump. The free extremity of the legs is provided with two hooklets or claws. In color the chicken flea is light to dark brown.

Life History. The female lays about twenty brown, oval eggs in some dirty, dusty place such as the floor, cracks, crevices or nests, These eggs hatch in a few days (six to twelve) if the temperature be warm and from them come worm-like larvae composed of thirteen segments each. The mouth parts are arranged for mastication. The larval stage lasts about eleven days; they then pass through a pupa stage, in a tough brown cocoon. The pupa stage lasts about fourteen days.

Condition Produced.—In an outbreak of flea infestation that was studied by the author during the summer of 1911, the presence of the fleas in the flock was first noted because of the insects attacking persons entering the hen house. Investigation revealed presence of fleas in large numbers. It is noteworthy in this outbreak that all the lice and chiggers disappeared from the flock, although they had been troubled, more or less, during the three years preceding. Although these parasites irritate the skin and suck blood, no noticeable effect on these birds was noted by the owner. Perhaps because it being summer the birds were largely out doors and under favorable conditions as to health. Symptoms similar to those produced by lice have been recorded.

Treatment: Eradication.—Dipping the hens in any of the following solutions: five-percent creolin, five-percent kreso dip, or five-percent zenoleum. A dusting powder as indicated under lice may also be used with success. Treat premises the same as directed for lice.

Chicken Tick Infestation

The chicken tick is the *Argas miniatus*. It is not common in the United States, although it does occur in some of the southern states and in Mexico.

Argas Miniatus

Description. The body is flat and thin. It has an overreaching dorsal surface, that hides the mouth parts. The mouth parts are provided with mandibles, which have hook-like denticles at the free extremity and a hypostome provided with six rows of irregularly-arranged, tooth-like denticles. With this apparatus it holds on to its host. By the side of this apparatus there is, on either side, a palpus, an articulated, finger-like structure taking the place of antennae as found in the insect parasites. This tick is a blood sucker. The engorged female

is nearly one-half inch long. Fig. 16 is a drawing fo a full-grown female, taken from a hen in southern Texas.

Life History.—The engorged female drops to the ground, from the hen, and finding a hiding place under some object, lays her eggs, which if the weather be warm, hatch in a few days into the six-legged, asexual state. Upon gaining access to chickens it begins to draw blood and moults, finally reaching the eight-legged, sexual state. It is now ready to again reproduce.

Condition Produced.—Large numbers cause trouble similar to that caused by numerous lice. The parasite being a blood-sucker, robs the host of considerable blood and causes irritation. The birds do not thrive, hens leave their nests, laying hens cease laying, young birds make but little growth. Badly infested birds may die.

Treatment.—Combat the parasite with sanitary neasures as outlined for the prevention of lice.

Infestation by the Chicken Bug

The chicken bug is known as the *Acanthia inodora*. It is often found around unclean roosts and dove cots. It is closely allied to the bedbug and it requires a microscopic study to differentiate it from the latter.

Acanthia Inodora

Description.—Fig. 17 illustrates a specimen obtained from an infestation in Colorado. It will be noted that it is provided with long antennae which possess long joints or articles. Its head is rather narrow and it has prominent eyes. The thorax is crescent-shaped on the anterior border and is much wider than the head. It is provided with three pairs of legs. Its abdomen like the abdomen of the louse is segmented and is practically destitute of hair.

Life History.—The Acanthia inodora lays its eggs in the filth where they soon hatch, if the weather be warm, and rapidly develop to the adult state.

Condition Produced.—This bug is quite a pest in Mexico and some parts of the southern United States. At times they are found in great numbers swarming over the roosts, and nests, specking the eggs with their excrement, attacking the hosts and sucking their blood. The conditions, as a result, is the same as is the case in any other form of infestation, by external parasites.

Treatment.—Similar to the preceding. The chicken bug is at times a formidable foe, even invading dwellings and proving more troublesome than the common bedbug (*Cimex lectularia*). They begin to appear about the middle of April and at times it is necessary to keep the chickens entirely out of doors.

Thrush Aphtha (Sore Mouth)

This is a condition affecting the mouth and is due to a low-grade fungus called the *Oidium albicans* (saccharomyces albicans). This consists of hyphæ which in some instances show well marked chains of cells. It reproduces by forming round or ovoid spores. These and filaments of this fungus may be found on the inner surface of the first portion of the esophagus.

Treatment.—If the patches can be seen it is best to cauterize the area with stick, lunar caustic (moulded nitrate of silver). Intestinal antiseptics are also indicated such as are given in other intestinal disorders as diarrhea.

Tinea Favosa (Honey-comb Ringworm)

This malady is due to another low-grade fungus, the *Achorion schoenleinii*. The fungus somewhat resembles the *Oidium lactis*, appearing in hpyhæ or threads and reproducing by spore formation.

Treatment.—In the early stages this disease should yield to treatment readily. The crusts should be soaked with soapy water containing a five-percent solution of creolin, liquor cresolis, Kreso dip, carbolic acid, or similar antiseptic. The fluid should find its way to every part affected. The premises should be disinfected as for lice or other parasites.

Pneumomycosis (Aspergillosis)

This disease is due to a fungus belonging to the genus aspergillus, an organism similar to the common green molds. The species that usually affects the lungs of birds is the *Aspergillus fumigatus*.

Treatment.—This is a difficult problem. Placing the affected birds in a close box and smoking them with tar has been advocated. Efforts should be made to eradicate the disease from the premises by cleaning and disinfection.

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Shooting in the Air

THE task of the editor would be rendered much simpler if readers would write him telling which articles they prefer. The greatest difficulty in the publishing business is the selection of material that is uniformly interesting. Articles of every kind can be secured on all phases of veterinary practice and all subjects included in veterinary science. If you will let me know what interests you most, such material only will be published.

Of course, in a magazine circulating as widely as does VETERINARY MEDICINE, no part of it can be of equal interest and value to all readers; perforce some parts of every issue are doubtless of no interest whatsoever to some classes of readers. For example, a case report that conveys a valuable lesson to the country practitioner in a dairy district may not interest at all, some city practitioner who limits his practice to canine and feline work; or a scientific article of great value for a state or municipal officer engaged exclusively in sanitary work may contain no useful information for the veterinarian in charge of the mules in an isolated mining camp. The question as to what should go into each issue of VETERINARY MEDICINE is a very live one. The problem of selecting the material so that a major portion of the contents of each issue is of interest to practically all readers is not an easy one.

Information as to what articles his readers dislike, is just as valuable to an editor as praise for the articles that are pleasing, and just as welcome. But be specific in your "knocks"; the blanket kind does no good, for the editor possesses at least some power of reasoning and knows, if his journal was not in the main satisfactory to the great majority of the veterinary profession, that it would not receive the loyal support now accorded it.

Let me have your views on the following questions and let them come right away. Would you like a larger proportion of leading articles in VETERINARY MEDICINE than have appeared during recent months, or do you want more case reports and short discussions? Does the "Newspaper Comment" interest you or do you want scientific matter in its stead? Does the description of political and official intrigue as depicted in "Nan" interest you or would you rather have something strictly veterinary in its stead?

As some have misunderstood the editor's object in publishing "Nan," a word of explanation may not be out of place here. More than a thousand veterinarians are sent

out from our twenty-one veterinary colleges each year. This is an enormous percentage increase in the total number of veterinarians in the country, far more than is required to replace those who yearly leave the ranks of the profession. In addition to this automobiles and motor trucks each year replace an increasingly large number of horses and this of course effects veterinary practice. If the field of veterinary science is to continue to offer the advantages it now holds out to those entering it, it must of necessity extend itself to fields not now occupied. Admittedly state and municipal veterinary work offers the most promising outlet for the surplus when there shall be more veterinarians than can profitably engage in general practice. This field is a large one, we believe it can profitably absorb the excess in the present supply of veterinarians during a quarter of a century at least. But it must be properly cultivated, and this missionary work must be done largely by those *within* the veterinary profession. In undertaking this, a knowledge must be had first of all of the difficulties to be overcome. It must be thoroughly understood, by those veterinarians who would bring this about, that state and municipal positions, which are more or less "political jobs," are not going to be handed to them because of merit alone. A policy of waiting until "the powers that be," see the need of a veterinary milk inspector, a veterinary meat inspector and a veterinarian on the board of health in every considerable municipality will never "land these jobs."

Public sales on farms are now centers for the distribution of disease among animals. The state could profitably employ veterinarians to inspect all animals offered at public sale, but that fact alone will not bring this work to the profession. Nearly every county in the livestock-producing section of the country could profitably employ the full time of one or more veterinarians, with plenary power, to take care of the hog-cholera and tuberculosis work; but it will take in addition to a vast amount of educational work some tall "wire pulling" to accomplish this.

"Nan" is not so much "fiction" as some readers suppose. It is a fairly accurate description of political conditions in Chicago not so very many years ago; conditions which with certain modifications exist today. And Chicago is not alone in this possession; the same "system" modified to meet the varying conditions exists in every large city; extends to almost every village and hamlet; prevails in most state capitols and eddies round nearly every country court-house.

Veterinarians, entering the field of state or municipal work, are entering a political field. The purpose of "Nan" is to give them a view of politics.

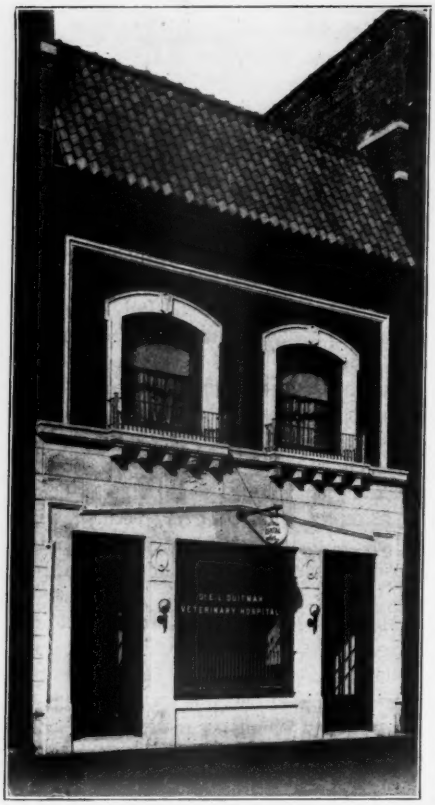
TESTS FOR BLOOD STAINS

The value of the guaiacum test for bloodstains. H. S. Shrewsbury (Chemical Trade Journal, 1912, Vol. 51, p. 616).—At a meeting of the Society of Public Analysts (London) the author reported the guaiacum test the most useful of sorting tests for blood, when carried out correctly. In his opinion it was only characteristic when the following conditions were satisfied. The stain must give a red aqueous extract, yielding no coloration to a straw-colored solution of guaiacum in rectified spirits when applied by itself, but a blue coloration within one second on the further addition of hydrogen peroxide. The last two conditions were emphasized. Oxidizers, enzymes, etc., give a reaction with guaiacum solution alone; but this was not the case with blood. It was very necessary that the reaction should occur within one second, as even guaiacum solution and hydrogen peroxide by themselves will develop a faint color on standing. Tested correctly, the author found that none of the thirty substances mentioned by Sutherland in his monograph on bloodstains gave a characteristic blood test. The majority took time for the development of color, the time varying from five seconds to several minutes. Excluding the condition of a soluble red extract, out of the thirty substances only the following gave a correct reaction: (1) Old bleaching powder; (2) certain enzymes; (3) ammonium chloride; (4) sixteen percent salt solution; (5) dilute solutions of copper sulphate.

(*Continued on page 216.*)

FEDERAL SUPERVISION OF BIOLOGIC PRODUCTS FOR VETERINARY USE

It is reported that during the closing sessions of the last congress a bill was passed authorizing the U. S. Department of Agriculture to exercise control over the preparation, sale and shipment of virus,



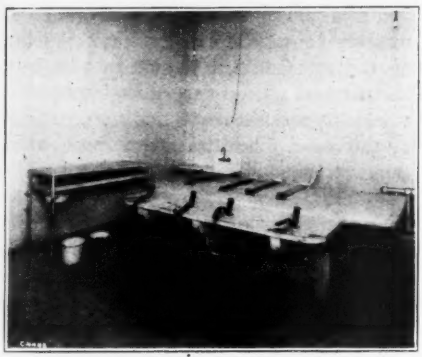
Front entrance of Doctor Quitman's new hospital, 1514 West Van Buren Street, Chicago

serum, toxin and analogous products intended for use in the treatment of domestic animals, similar to the control which the United States Public Health Service now exercises over biologic products for use in the treatment of man.

This is legislation of great importance to veterinarians and will be welcomed by every practitioner. Products of this nature on the market have varied widely, each manufacturer having a standard of his own, and the only guarantee that the practitioner had, that these products were up to even this standard was the reliability of the manufacturers. This guarantee was sufficient in many cases, but during very recent years quite a large number of new firms, of which the average veterinarian had never heard, and as to the reliability of which he had no knowledge, have engaged in the manufacture of these products.

VIEW OF TWO OF THE SINGLE STALLS

The posts of these stalls are of round iron, fitted with specially made channel iron for receiving the partition boards. No nails, screws or bolts are used at either end of the stalls, so that there is no projection or sharp corners on which a horse might injure himself. The heavy, iron grill work, with the rods only about two and a half inches apart, runs the full length of stalls, preventing horses from kicking over them and the height of eight feet prevents them from biting each other. The stall partitions (both single and box) can be lifted out of these channels, without removing any nails, bolts or screws, to replace a broken plank, should there be any, or to turn two box stalls into one if desired.

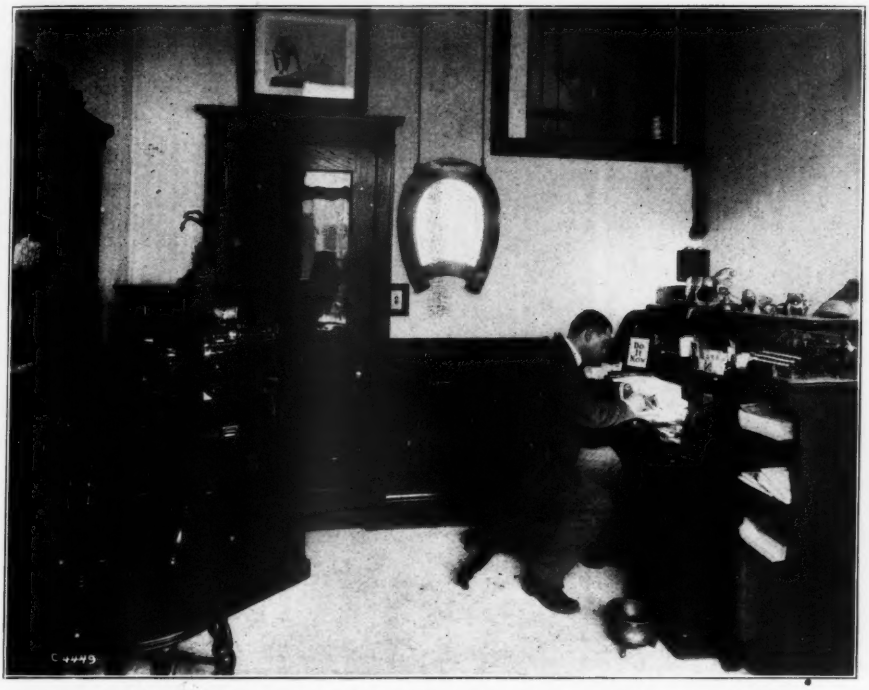


A CORNER IN THE OPERATION ROOM

The operating room is a separate, enclosed one, having perfectly smooth, enameled on concrete walls, with sanitary base, doing away with dirt catching corners. The room is amply lighted during the day by a large prismatic glass sky light, and at night with five electric lights. It is ventilated by a special ventilating shaft. The hose can be turned on ceilings, walls and floor of operating room without doing damage. The entire building is absolutely fireproof with automatic, iron, fireproof doors

The legislation cannot but have a salutary effect and be welcomed by all manufacturers, whose biologic products are what they should be.

The law is to take effect July 1st, 1913, and once its administration is well established, it will undoubtedly lead to greater confidence in, and a wider use of biologic products by veterinarians.



A PARTIAL VIEW OF THE OFFICE, SHOWING DOCTOR QUITMAN AT HIS DESK

DR. E. L. QUITMAN'S NEW HOSPITAL

A recent meeting of the Chicago Veterinary Society was held in the operating room of Dr. E. L. Quitman's new veterinary hospital in west Van Buren St.

The Chicago veterinarians were much interested in an inspection of this excellent hospital the best constructed and best equipped in this and perhaps in any other city. The accompanying views and their descriptions will give the reader some idea of the superiority of this hospital, which approached in the front has none of the livery-barn appearance that so often characterizes veterinary hospitals. The front of this building is as handsome in appearance as any business block in the vicinity and the interior is cleaner than the interior of many "popular-priced" restaurants.

The door on the left side is the entrance to the living apartments upstairs. The door to the right is the entrance to the office and hospital. Horses can enter in the front or in the rear.

The front is constructed of blue bedford stone for the first story, and the second is of brown glazed waterproof brick, the mansard roof is of green spanish tile.

The entire building is steam heated, electric lighted and has circulating hot water. There are cement floors throughout. Farraza floor in offices and vestibules.

There is also a canine ward or dog room fitted with nine kennels, and room for more if they should be needed.

There is a dressing room in the rear, which is especially equipped for down cases (such as azoturia). It has sling rings in the

ceiling and four very strong rings, six feet apart, in the floor to anchor or hopple a down case to prevent him from injuring himself.

The expense to which Doctor Quitman went in building and equipping his hospital

A VIEW OF THE EQUINE WARD

The single stalls are five feet, six inches wide, with two special sling stalls six feet wide to facilitate one getting around a patient in slings. Single stalls are nine feet long. Box stalls are ten by twelve feet. All stalls have eight feet partitions of two and one-half inch boards, set two inches apart for air space. Fittings are of the sanitary grain boxes to permit of easy dumping and cleaning, and compressing hay racks, which take up but little head room and prevent horses from bumping their heads or wasting hay. Drains are of the open gutter variety. The water has to run only five feet to get to a sewer drain. Ventilation is by side windows, fitting into a pocket, which prevents a direct draft on a patient, and by four eighteen-inch center ventilators, running up above the tallest buildings on the sides. The base of the ventilators are equipped with condensation chambers, which prevent a drip in cold weather. There are sixteen stalls, ten singles and six box stalls, and a garage

shows his large faith in the future of the veterinary profession, and that he does not fear that automobiles or auto-trucks will eliminate the horse or decrease equine practice.

MRS. CRANE ATTACKS THE B. A. I.

In a series of articles, beginning in the March issue of *Pearson's Magazine*, and not yet completed, Mrs. Caroline Bartlett Crane, is again attacking the Federal meat inspection, as now conducted by the Bureau of Animal Industry.

Profiting by her experience before the Nelson Committee of the House of Representatives, she is saying little concerning animal pathology, of which her testimony before the Committee in Washington last spring, showed her knowledge to be very limited. It was Mrs. Crane's contention last spring that the rules, as formulated by the Bureau of Animal Industry for meat inspection, erred in passing for food, meat from carcasses in which parts were to a greater or less extent diseased. So far, in the present series of articles, she has confined herself chiefly to an attempt to show that the officials of the bureau are in collusion with the packers, who are permitted

to put the "U. S. Inspected and Passed" label on meat products, which have not been inspected by federal meat inspectors; that tanking of condemned carcasses and parts is not properly safeguarded and that the meat inspection regulations as published have been modified by secret orders, made in the interests of the packers and that these changes are detrimental even inimical to the public health.

Many of the things, of which Mrs. Crane complains, can be satisfactorily explained even by one with slight knowledge of federal meat inspection. Doubtless other of her indictments, and perhaps all of them can be and will be, answered by Bureau officials. With some of the regulations however it is a little bit difficult to see wherein the packer is not given an advantage over the shipper. Take for example the regulation now in force regarding inspection and condemnation for hog cholera, which provides that when any animals in a lot of hogs show symptoms of hog cholera, antemortem, the temperature of the entire lot shall be taken and on postmortem examination all having shown a temperature of more than 106° F. are condemned, all having a temperature of more than 103° and less than 106° F., and at the postmortem examination showing lesions of cholera however slight are likewise condemned. Those having normal temperatures antemortem are treated as any other hogs. All animals condemned in this lot are the loss of the shipper, not of the packer.

Had the antemortem inspector failed to observe any animals in the lot showing symptoms of cholera, as might easily be the case, the number condemned in this lot would have been smaller, since no animals would be condemned because of their high temperature and those showing only slight lesions of cholera would be passed for food or lard, depending upon the degree of lesions. In this latter case condemned hogs would be a loss to the packer. As an illustration, suppose a case as follows:

Take two lots of hogs, A and B, in which cholera exists to the same extent. When they are driven on the scales, the inspector thinks he observes symptoms of cholera in lot A and the temperatures of the whole carload (sixty head) are taken, with the following results. Seven animals show a temperature of more than 106° F., eighteen a temperature of 103° to 106° F. and the remainder normal temperatures. The whole number would be sent to the packing houses as "suspects" and any loss due to the animals being condemned would be the shipper's loss.

In lot B on the contrary the inspector perhaps a little less careful, perhaps hurried a little more, perhaps having a different standard in mind, does not observe any symptoms which lead him to think hog cholera exists in the herd, and it is passed antemortem as sound and becomes the property of the packer.

Now supposing, for the sake of illustration, that the two lots are in exactly the same condition when they are killed. The seven animals in lot A, having a temperature of more than 106° F. will be condemned irrespective of their lesions. Of the same animals in lot B, we will say four show advanced lesions of cholera and are condemned, two show less advanced lesions and are passed for lard and the seventh showing but slight lesions, as hogs with cholera sometimes do, is passed for food. Of the eighteen in lot A having a temperature of of 103° to 106° F., suppose that four show fairly well marked lesions of cholera, eleven show very slight lesions and three none at all. The last three would be passed for food and the other fifteen condemned. These fifteen hogs are the loss of the shipper. In lot B, the packer lot, the four showing fairly well marked lesions of cholera would perhaps be passed for lard, the eleven showing the slight lesions would be passed for food and the three healthy ones would of course be passed for food. The remaining thirty-five in both lots we will assume were healthy and are all passed for food, In this case, two exactly similar lots of hogs, have been presented to the federal inspectors for examination. Of those belonging to the shipper he has passed thirty-eight for food and condemned twenty-two. Of those belonging to the packer he has passed fifty for food, has passed six for lard and condemned four.

The reason for this condition, if a satisfactory reason exists, as we mentioned above,

(*Continued on page 249.*)

WORLDS WORK in Veterinary Science
A digest of all the Current Literature of Comparative Medicine
By Dr L. W Fetzer Washington. D.C.

Epizootic of haemoglobinemia in horses [B. Kardos, Allatorvosi Lapok, 1912, Vol. 35, No. 47, pp. 555–556].—During the month of October of this year on dry and pleasant days some horses came down with haemoglobinemia. All of the animals had tremors, increased cardiac action, and perspired profusely. After one-quarter to three-quarters of an hour the tremors and sweating ceased, but the pulsations remained around 60–80. When the animals were hitched up the tremors and sweating began again. In every case haemoglobinemia was present. In the entire epizootic 36 mares and one gelding were treated.

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Studies on the virus of hog cholera [W. E. King and R. H. Wilson. Zeitschr. f. Imunitatsf. u. Expt. Ther. I Orig. 1913, Vol. 16, No. 3, pp. 367–376].—When hog cholera virus is injected into horses after 30–60 minutes an activation of the virus apparently takes place. Out of 48 hogs who received increasing injections of this horse virus 85.2 percent died. The period of incubation in one of 3 series of tests was 6.3 days, and the entire course of the actual disease required on the average 14.9 days. In the remaining tests the incubation required 10.3 and 12.8 days and the average period of the sickness 17.4 and 19.1 days, respectively. The incubation period in sound animals was shorter when the horse serum was given. The smallest lethal dose of virulent serum as prepared by dilution with physiological salt solution did not seem to correspond to the normal fatal dose when the virus was diluted with horse serum.

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Organisms present in the blood of hogs affected with hog cholera [R. A. Craig, Report Purdue University Agricultural Experiment Station for 1912, Lafayette, Ind., 1913].—A study of the blood and physiological salt solutions from cholera hogs and filtrates of these virulent materials with the dark field illumination apparatus was made. The author observed an organism clinging to the margins of the blood cells. The organism was present in all the specimens of hog cholera blood examined, but not in the blood from healthy or hyperimmune pigs except in the case of a recently hyperimmunized hog. It was not noted in the blood of cows, calves and sheep. The organisms which were roundish and motile were uniformly present in the blood, urine, physiological salt solution from cholera hogs and their filtrates.

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Fracture of the pelvis in a cow. District Vet. Wideman. Münch. Tierärztl. Wochenschr. 1912, Vol. 56, No. 44, pp. 790–791].—The author was called to see a cow which had calved two days previously but who was unable to rise without aid. The animal was laying on its right side and the right hind foot seemed to be extended abnormally sidewards. Exerting pressure at the coccygeal region which had a swollen appearance, produced severe pain.

As the calf was well built and heavy and required the combined power of 5 men to deliver it the presence of a fractured pelvis was considered. The diagnosis was confirmed by finding two sliding pieces of bone. Callous formation took place in about eight days when the cow arose on her own accord.

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In regard to the nature of the globular bodies in the apthae present in foot-and-

mouth disease [M. Müller, Zentralbl. f. Bakt. I Abt. (Orig.) 1912, Vol. 66, No. 1, pp. 103–105].—The cocci like bodies noted by Huntemüller in the fresh lymph from the aphthae in foot-and-mouth disease are nothing else but fat droplets in suspension.

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IN REGARD to "watery cachexia" in ruminants [Cuille, Marotel and Panisset. Comp. rend. soc. biol. Vol. LXX (1912) pp. 567–568].—Extensive examinations were were made by the authors and it was shown that the ruminants which died were often infested with *Distomum hepaticum*, but in addition other parasites were present. (Twelve kinds of Strongylus, Esophagostoma, Sclerostoma, Trichocephalus, various Trematodes, Cestodes and Coccidia.) Attempts were made to produce an antigen with the Strongylus. The results were negative.

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THE milk from animals affected with foot-and-mouth disease [Moussu. Annales de Med. Vet. 1912, Vol. 61, No. 1, pp. 39–40].—The milk contained in the mammary glands from animals affected with foot-and-mouth disease does not seem to contain the factor concerned in this disease. Any disease conveyed by the way of the milk is due to coming in contact with the aphthae which may be on the exterior of the teats or the contamination may be from some other source. The milk containing the organism (?) is infectious for adult bovines, calves, goats, shoats but not for horses. Boiling the milk destroys the virus. Man is infected only with difficulty, but cases of Aphthous stomatitis in children were observed frequently where raw milk was fed. If the milk is boiled it can be used for feeding children and making cheese.

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HAEMOPHILIA (Bleeders) in a dog [Schick. Münch. Tierärztl. Wochenschr. 1912, Vol. 56, No. 49, p. 874–875].—This is a description of a case in a seven year old greyhound who received a slight second-degree wound on the inner side of the left knee joint. After removing a foreign body from the wound bleeding began and continued for nine consecutive hours before it was gotten under control. The measures instituted for checking the flow were as follows: Cotton pledgets saturated with liq. ferri sesquichlorati, collodion mixed with iron chlorid, compression of vessels with tampons and ligation of the limb en masse. Despite the various forms of treatment given the bleeding persisted and only when the Paquelin cautery was tried was the flow checked somewhat. After this an antiseptic dressing was applied. The animal was unable to stand, trembled and the pupils were dilated. Injections of camphor were given and on the morning of the third day the bleeding ceased entirely. Bleeding began again on the fourth day, but stopped after a short time which was followed by a rapid healing of the wound.

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A CONTRIBUTION to the etiology of laminitis (Founders) [Dr. Loer, Berl., Tierärztl. Wochenschr., 1913, Vol. 29, No. 6, pp. 102–103].—This is a description of a case in a horse (Danish breed) who was given a dose of 100 Gms. (about 3 1-3 ounces) of aloes, followed by diverse amounts of Glauber salts. The medicaments were given by a layman.

The symptoms noted were active peristalsis, reddened conjunctivae, increased respiration, weak pulse, temperature 39.6° C. (103.28° F.), no appetite, and diarrhea.

After using Priessnitz compresses, styptics and excitants for three days the above symptoms were apparently removed. At or about 12 p. m. of the third day the two forelegs of the animal showed a pronounced lameness which was diagnosed as laminitis. The treatment given was the usual one but venesection was not done on account of the extremely weakened condition of the animal. Absolute recovery set in in about fourteen days without a deformation of the hoofs.

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IN REGARD to the use of cocain in the treatment of acute laminitis in horses [Cozette, Réport. de police sanitaire, 1912]. —A description of an acute case in a horse who was foundered in all feet and unable to stand on account of the extreme pain. In order to allay the pain attempts were made to anesthetize the hind legs and for this purpose 10 Cc. of a three-percent

cocain solution was injected into the plantar nerves. The animal experienced immediate relief from this injection, and proceeded to rise upon its hind legs, at the same time making no serious attempt to move the fore legs. The following day an injection of the following mixture: Cocain hydrochloride 0.3 Gms (4.5 grains); adrenalin hydrochloride 1 Cc. (15 minims), and physiological salt solution 10 Cc. (2.5 drams) was given in the forelegs.

The horse recovered absolutely within 14 days. A description of two other cases is also included.

Local anesthesia with cocain-adrenalin solution is recommended in cases of acute arthritis of the joints in order to allay the pain and to facilitate bandaging.

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STUDIES on the biochemistry and chemotherapy of tuberculosis. The permeability of tubercles for iodin compound and proteins [H. G. Wells and O. F. Hedenburg. Jour. Infect. Diseases, 1912, Vol. II, No. 3, pp. 349–372].—In this work it is shown that compounds of iodin injected into tuberculous animals enter glandular tubercles with readiness, so that the proportion of iodin in such tubercles is usually greater than it is in most other tissues except the kidney; furthermore it is greater in the caseous contents than in the cellular peripheries of the tubercles. Tuberculous eyes usually contain much more iodin than their normal mates. This property is shown not to depend on any specific character of the tubercle itself, for other necrotic tissues also take up more iodin than normal tissues. The explanation offered is that normal cells are not perfectly permeable to iodids (except perhaps kidney cells) and lose their impermeability or semi-permeability when killed or injured, thus becoming entirely permeable for crystalloids present in the surrounding fluids. As the iodin content of the blood increases and decreases with absorption and elimination, so the iodin in the necrotic area, whether tuberculous or otherwise, varies, indicating an absence of any chemical or physical binding of the iodin in such areas. A simple, inert, colloid agar, implanted in the tissues, behaves in quite the same way.

Egg albumin injected into tuberculous pigs is found, by means of the anaphylaxis reaction, to penetrate the avascular tubercles but little if at all, even when present in the blood in large amounts. This agrees with the hypothesis that the passage of iodin from the blood into the tubercles is a purely physical matter, the crystalloid iodin compounds diffusing through the inert colloidal solution of a necrotic area practically unimpeded, while the colloidal egg albumin, according to the law of colloidal diffusion, is practically unable to diffuse through such a colloidal solution.

No evidence could be found of any tendency for iodin compounds of whatever nature to accumulate in tubercles or other necrotic areas, or to persist in such areas when disappearing from the normal tissues and the blood.

Exudates contain approximately the same proportion of iodin as the blood of the same animals, and hence any area with inflammatory edema and congestion will commonly show more iodin than normal tissues, although not usually more than the blood. No evidence was found of any specific entrance or fixation of iodin in inflammatory exudates. The iodin is distributed about alike in the fluid and solid portions of the exudate, indicating simple diffusion. Of normal tissues only the kidney seems to contain approximately as much iodin as the blood of the same animal. This may have some bearing upon its excretory function, since it indicates a greater permeability of renal cells than of other gland cells for iodids.

TESTS FOR BLOOD STAINS

(*Continued from page 209.*)

Weaker solutions of common salt than fourteen percent gave no color, consequently there was no danger from the minute quantity of salt present in the liquids of the body. It was useful to remember that amongst commonly occurring enzymes those contained in maize or wheat flour satisfied these conditions, and if combined with a soluble red stain might be misleading.

L. W. F.

POINTED OPINIONS ON LIVE TOPICS by Readers of Veterinary Medicine

It is in reports like those of this department that the current history of the progress of veterinary science is written. Are you leaving a record of your experience which will help others, as you have been aided by these and other clinical reports? If not, you are earnestly invited to contribute from your experience that this department may be of the greatest service to its readers. By so doing you will earn the thanks of the editor, the approval of the veterinary profession and the lasting gratitude of those who are aided by your suggestions.

Acute Indigestion in the Horse

WHILE with this, as with many other ailments of the horse, we have several different phases, we are unable, in many cases, to adequately explain the reason for these differences. Without attempting to explain them I shall try to describe some of these different phases of indigestion and describe briefly the treatment I employ for each.

First consider engorgement of the stomach. Not that I really consider this a case of acute indigestion, for it is not. Yet in so many of these cases the symptoms approximate those of acute indigestion and the treatments are so nearly the same that I think it should be put in this class.

To illustrate this similarity, take a typical case of recent occurrence: A small, black horse, aged eighteen years; very fat, well-preserved animal and a good individual, even at this age, and apparently well cared for.

On the evening previous to this attack he had been taken out for a drive and afterwards put away as usual about 10 p. m. The next morning he was found down in the stall, rolling from side to side, very badly bloated. The owner immediately started for the hospital with him and a call was sent in for me to meet him there as he was bringing me a very sick horse.

On my arrival at the hospital I noted the following symptoms: a very anxious look from the eyes, breathing very hard, and inspiration accompanied by a jerk, and the abdomen bloated to about twice the normal size of the well animal. As soon as stopped he would lie down and roll. This was not easy to accomplish on account of the badly distended abdomen. He could not remain down long but would get to his feet again and then lower his head close to the ground with his legs drawn under him and in this position would turn in a short ring, a time or two, and then droop to the ground. This was kept up until I had my stomach tube ready for use and was ready to take care of the case.

Course and Treatment.—First the horse was placed into chute, securely tied, and the stomach tube passed, not without some trouble because of the great uneasiness of the animal. By the use of plenty of water I succeeded in washing out of the stomach about two gallons of solid feed. This required about fifteen minutes. The tube was removed and the horse placed in a box stall. Distention of the colon being very bad, I gave hypodermic injection of eserine, one-half grain, pilocarpine, one and one-half grains. The symptoms following this were very uneasy, violent rolling, but rarely turning over. Head frequently turned to the right side. Very little peristalsis could be detected. No evacuation from eserine and pilocarpine, profuse salivation, no gas or fecal matter was expelled. At 7 a. m. the tube was passed a second time. About one-half gallon of solid food was removed and the

fluid that came with it was very sour and offensive. Cold water rectal injections were given. The water came away barely colored, no further results.

Arecoline, one grain, and strychnine, one-half grain was given; results: the horse was in grear distress, pulse very weak and fast, breathing very labored. After an hour he became some easier and lay quiet, rolling only at intervals, a very distressing look from the eyes and nostrils wide open. No results from last arecoline and strychnine except a very profuse salivation, no flatus or fecal passage. Cold water enema was given, clear water expelled. At 10 a. m. the tube was passed again. No solids whatever were removed this time but quite an abundance of sour fluid came away. After washing until the water returned clear, one and one-half pints of raw linseed oil and one and one-half ounces of turpentine were given through the tube followed by a rectal injection of cold water, the horse became easier. At 1 p. m. one-half grain of strychnine was given; the bloating noticeably diminished but was still in evidence. At 3 p. m., the bloating was gone and the patient was standing easier and looked bright out of eyes. Very little peristalsis could be detected in any part of the intestinal tract. No feces had passed from him. At 5:30 p. m. he wanted to eat when the other horses were fed, a small handful of hay was given him and he ate it greedily. At 6 p. m. ninety grains of sulphocarbolates and one grain of strychnine was given in a capsule. Nothing further was given but no passage was noted from the bowels for forty-eight hours. This was very heavily coated with coagulated albumen, in fact entirely covered. A nice recovery followed without any other complications.

I cite this case because of its train of symptoms, first badly bloated, second, amount of solids removed by the use of the tube, and, next, no action of the bowels from beginning to end. Not a single passage from them in forty-eight hours, nor any gas to speak of, yet gases came away from using the tube and repeating the work, and a nice recovery followed.

Another form of indigestion, one which is met with very often, and one we all agree should be termed acute indigestion, is when the horse is fed early and started on a long drive, of say from twenty to forty miles. These cases begin with a usual purging out, after being driven from seven to fifteen miles. As the animal is forced onward he shows little or no inconvenience while moving, or he may slack up in his gait, but not enough to be called really sick, but every half to one mile he will have a movement of the bowels, and at each time the discharge grows more watery or fluid. This will continue for several miles, when gradually it will cease and apparently he is over his trouble. This is not the case; for when unhitched and led to water he will walk with his head down and with a slow, shambling gait. He refuses to drink or eat; stands resting on one or the other of the hind feet; head hanging down; at intervals the head will be raised and the nose pointed outwards. As soon as these movements are gone through with the head will be drooped again and a change of position of the hind legs will take place, shifting from one to the other. Soon he will paw a little with one front foot and then with the other; instead of raising and lowering the head, he will now look around towards his sides and you will note that the nostrils are more wide open than natural and the breathing just a trifle faster than normal. As time goes on he will get more uneasy and threaten to lie down by getting down on his knees, then getting up again. These symptoms usually last about an hour in these cases. When, as the trouble advances, the symptoms increase, the horse will not only lie down but let himself fall with a thud. And thus the case becomes very critical. At this time, by carefully listening along the course of the esophagus, one may distinctly hear the fluid-like rumble of regurgitation from the stomach. Usually considerable gas is expelled per anus and to this alone is due the fact that the animal does not become badly bloated. Should the flatus fail to escape, then of course we get distention of the colon, which adds to our other trouble.

Now in these cases the treatment indicated is similar to the treatment for the indigestion from overloading. Confine the

horse securely, pass the stomach tube. The results are so striking in this class of case that one must stop and wonder how it is. The bloody looking fluid that comes away from one of them and the relief that is given almost at once surprises one who has not previously seen it. The amount washed from the stomach varies greatly in this class of cases, from an ordinary pailfull in some of them, to three or four times as much in others. It is very seldom that any solids to speak of will come away in them, although the fluid is very offensive and dark colored, very often almost like blood. Now if when washing out this stomach, one will keep at it until the water comes away almost clear, he will have very little else to do. No medicinal treatment is needed unless it be a small dose of strychnine, one-quarter to one-half grain, as a heart stimulant. Should the horse become uneasy an hour or two later pass the tube again.

You will find that you have had a retrograde peristalsis and that the stomach is again filling up and a return of fluid through the tube will be the result. The fluids at this time will be colored, but not nearly so much as at time of first using the tube. It is rarely the case that after using the tube in this class, that the animal will need another thing. They will stand around drowsy from one to two hours, as though partially asleep, will then want to eat and I usually let them have some good prairie hay, no alfalfa, and so far have had no bad results from it. Keep the grain away for about thirty-six hours, when it is not likely to interfere.

To go back again on this same class, if when called the symptoms have gone far enough you will get belching of gas, and very frequently fluids will be returned through the nose. While this is not what one would wish to see in any of these cases, I am always glad to see this rather than to be told my patient has just lately become easier and they think he is doing all right, for in most such cases that have gone through this train of symptoms and have become easy you will find a nervous shock has set in. The animal is trembling in certain groups of muscles, usually the shoulders and flanks, a sweat has broken out that has a cold feel to it, even on a warm day. These are the cases *you don't want to pass a tube on*, for, I assure you, you will be given credit for tearing that horse's stomach with the tube. This, of course, is a thing quite impossible with a double tube, yet you will be blamed for the rupture, which is already present wneh the tube is passed. These symptoms, with a very few exceptions, obtain only in ruptures, not always of the stomach, but of any part of the intestines and of the diaphragm as well. But the cold sweat is almost a conclusive symptom of rupture of the stomach and a tube should never be passed on one of them. So long as you are in time to see these cases belching gas and fluids from the nose, you can be sure that you have a stomach that is full and not ruptured. For once this occurs there is no more fluid returns.

At this point I would like to emphasize that so far as the fluids returning of their own accord, or rather from the distension of the stomach, I always think is a good symptom, for had this not occurred I am sure that I should have been too late in many cases, for the accumulation of fluids in them occurs very rapidly, and many cases after two or three hours are filled and rupture and invariably in them the owner will tell you his horse is lots better and has got so he will stand on his feet, something he would not do until just lately. Do not let such talk deceive you but look carefully and note if you have any trembling of the muscles, etc. I do not wish to impart the idea that all of this class of cases of acute indigestion terminate fatally, unless a tube is used, for this is not the case. I, myself, have seen a great many live, but on the other hand I formerly had many a one taken away dead, and others have had the same experience. But since using the tube, I do not have this loss, nor will any one else, who will follow this line of treatment.

Another form of acute indigestion often met with in the heavier horses at hard work, not necessarily fast, but hard pulling, such as drays, excavating work, coal teams, etc. Take it on a warm sultry day; the teams are usually fed early in the morning and started to work at 7 or 8 a. m.; from that

time on till noon, they are kept going. At noon the team is either fed in nose bags or one box suffices for both horses. At this time the driver will notice the horse is not eating, chances are had not drunk any water. No hay is given, or but a very small amount.

At 1:00 they are again hooked up and put to work, the horse goes fairly well until about 2:30, when he becomes slow, does not want to keep up his end of the load, being hit with the whip he will spurt up for a short distance, but soon is back again. As soon as allowed to stop he will look around at his side, likely paw a little with one foot, if pressed onward he will soon get so that he will want to lie down in the harness, and will do so as soon as allowed to stand. About this time it is noticed that the horse is commencing to breathe hard and that he is also starting to bloat. It is now the time when everyone around will suggest to give that horse a dose of nitre for his kidneys. The driver will just have remembered he has not urinated the entire day. This from their viewpoint is a sure thing that the horse is bothered with a "stoppage of the kidneys." A dose is prepared, in size varying from fifteen drops to three ounces. After a time they notice he is growing worse on the nitre. You are called, this is seldom done until the horse is very far along. You will find him wet with perspiration. Rolling from side to side and usually a mass of mud from the sweat, pulse weak and fast, breathing very labored, a very anxious look from the eyes, on raising he won't wait to straighten up in a normal position, will have a crouching down, front legs well under him, same with hind legs. Many will let themselves drop, if so they always have a heavy grunt following. Most of them are more careful and will make several efforts to lie down before doing so. They roll very hard for a short time but soon get up. Breathing becomes harder and shorter right along and if relief is not soon given, your patient will be beyond help. This of course can be temporarily relieved by using the trocar, an instrument I very seldom use.

In these cases securely confine the animal as directed before, for they are already very uneasy from the distended stomach and intestines. It's an exception when I tap an animal. I rely almost altogether on the use of the tube. In eight out of every ten cases as soon as you get the tube started in returning the fluids and solids from the stomach the patient will become easy and many will not move until one is ready to remove the tube. In any of these cases you may look for from two quarts to three gallons of mixed feed, according to what is fed. In our town it is usually cracked corn and bran, sometimes shorts instead, rarely oats. It is not an uncommon thing to get four gallons of solid corn and bran from the operating room floor after I have finished, in addition to this a certain amount will go into the three-inch opening into the sewer, which is never closed on these occasions. I am sure that to get results in these cases one must have a double tube because the feed is sour and heavy and would choke up any single tube used. It will in some cases choke up a double tube, but there is this advantage, water is forced into this mass continually, thinning it up all the while, and not only that enough air is being forced into the stomach to let it have an air space, without which tube work is not successful. I will admit that in pumping water into the stomach pressure, to a greater or less extent is produced, just how much I do not know, but from actual experience I do know that not enough can be had to do a good job.

Now in this class, should your horse not ease off in forty-five minutes, use the tube again. At this time the gas will practically all come away and you do not run any chances from the puncture, from dirt, etc., of causing any trouble. It is not often that this case will need any medicine, yet I think that an antiseptic, such as Eucamphine Eucalyptolin or Sulphocarbolates is beneficial and sometimes strychnine as a stimulant. Yet there are few that really need them. This is one of many cases that occur here in Topeka, and I am sure that my success with them is entirely due to the persistent use of the tube; for ten years ago and longer, I can remember of lots of good ones being hauled out from attacks of this type.

I would like to impress upon the minds of all, that in all cases of this nature, if it is possible to get them to the hospital where

you can use city water pressure, to do so, you will have better results than it is possible to have in any other way. No pump can take the place of city pressure. It is always the same and always at hand. Should they be too bad to come to the hospital without the use of the tube first, don't hesitate, but pass the tube and get away all that you can with the pump.

This will relieve them enough so that they will come right along if you keep them moving. As soon as you arrive at the hospital pass the tube again, this time using plenty of time and water and remove all sour material, in other words, keep the stream of water going in until the water comes out clear and cool This class of cases just described are typical cases, in which a tube should be used, and that at once. Do not try any form of medicinal treatment first, for any form of drench only fills up the already distended stomach and arecoline or eserine and pilocarpine, hypodermically, surely aggravates all the symptoms and causes the animal to thrash around a great deal more than he would without, and not only that, but in his agony he is likely to let himself fall hard enough to rupture the stomach, in its distended state.

We have yet another condition in this line, while not considering it of an acute nature, it is none the less indigestion. In this the animal will first show a sluggish disposition, head hanging downward, resting on three feet and show some signs of being uneasy at intervals. Such as stated will take a few mouthfuls of hay and eat it, not with a relish, but chewing it slowly, if in a tie stall will paw at intervals, then for a time will be quiet and apparently half asleep. This may continue for as much as half a day before anything is thought of it. The owner when calling will give you to understand that while he would like to have you come and see his horse, he does not consider that there is much the matter with him, but thinks probably a dose of nitre or something of this nature would fix him all right. He has already diagnosed the case and stipulated what to give. On the veterinarian's arrival these patients are usually quiet and it is quite a difficult thing to convince the man that he might be mistaken, both in diagnosis and treatment. He will be sure to have noticed that the horse has been trying hard to pass urine. This in a measure cannot be brought up against the man, for in nine out of every ten of these cases, the animal will at time stretch out placing the front feet as far forward as he can. This, of course, in a way relieves the pains of the animal, but the owner cannot be made to believe this (at least many of them will not), and while you can stand and tell him different he will yet think he is right, and should he make urine come, no matter how long afterwards it will be, before the animal is over his trouble, the owner will think he is correct. By the time you have been called you will find your patient has been sick from five to ten or twelve hours. At this time things have changed from the slow gripping pains, to the more acute, which he will show by being restless. If in a box stall he will be in one corner usually, pawing, at intervals he will toss his head up and down, then apparently an easy spell will be shown. He will stand quiet and very soon he will raise the head, nose pointed out, will turn up the upper lip, this will be quite noticeable. Respiration is somewhat hurried but not labored in any way. Temperature about normal to one degree of elevation. No flatulence to speak of, yet may be noticeable. He does not show any great distress at any time and while laying down is quiet, does not tumble from side to side, but will point the nose out and turn the upper lip up, showing the incisor teeth.

With this as with other cases I always pass the stomach tube and invariably get some gas and quite a lot of sour feed from the stomach. If the stomach is washed clean of this sour mass and fluids it will be but a short time until the animal will quit turning up the lip and soon all uneasiness will have passed. So why use medicine in these case when a stomach tube, rightly used, will relieve your patient so soon. I do not mean to be understood that in these cases that a tube must necessarily be used in order to have a recovery, for I know it is not really essential. I am aware that medicinal treatment in this class of cases is almost always successful in time, but it does take time for your medicine to act and still

more time for the intestinal tract to rid itself of the sour mass.

Now in all our work we strive to remove the cause, then why not in these cases I have mentioned. If we once can do this why are we not getting at the seat of the trouble. I am positive that eight out of every ten cases of this class is started in the stomach, and that as time goes on, and fermentation takes place, this same stomach acts the same as any generator, and since the stomach of the horse is so well guarded as to *almost* exclude vomition, we can readily see that unless it does pass along the intestinal tract we soon will have a good sized stomach to contend with.

On the other hand should it follow the intestinal tract and accumulate in the cecum and large colon we have a badly bloated animal. I will admit this can readily be removed by using the trocar and canula, but will this be all? I have tapped a horse as many as eight or nine times in one night to keep my patient from smothering, but too many of them died to suit me, and why? Because I did not remove the generator of the gas. Then why not use a tube in this case (one that will do the work) and remove all this trouble from where it starts. This done, you have no more accumulation of gas. You have only spent from five to twenty minutes of your time, you have no use for the trocar, your patient rests easy and you are sure you can go home knowing things will be all right.

I have made no allusions as to the different colics of the horse, nor to the differential diagnosis of them, in this article for I am sure if you will read Dr. R. P. Lyman's article (in the May, 1912, issue of VETERINARY MEDICINE), I think you will have to say it is the best article on colics of the horse ever published.

D. O. KNISELY.

Topeka, Kan.

CATECHU AND OPIUM FOR SCOURS

Regarding treatment for a horse that scours. Taking it for granted that the pathology is really not understood, and some cases, no matter how fed, watered or driven, will still scour; give the following: acid sulphuric dil., one dram, aquae dest. two ounces. Mix and give one-half dram, twice daily. This will as a rule effect a cure.

A combination of tincture of catechu, tincture opii, acid sulph. dil., aa. one dram is also very good. For the chronic scourers the sulphuric acid and aquae mixture should be kept on hand and used when required. In my opinion some cases are practically incurable.

D. S. KAY, D. V. S.

Newman, Calif.

A SIMPLE HOME MADE TWITCH

To make a pocket, home-made twitch, procure a three-inch ring, a small split ring, a snap and a piece of cord or raw hide. Join the snap to ring by the clip ring. The clip ring holds the cord. This can be put on and snapped in the holder ring.

D. S. KAY, D. V. S.

Newman, Calif.

POSSIBLY DUE TO FORAGE POISONING

A young mare, five years old, not in foal, that been thriving well, in fair flesh, was heard thrashing around in her stall one night. When the owner went to the barn she would lose control of herself about every twenty minutes and stagger forward against some object and fall and rise immediately as if nothing had happened. She would then walk up to the trough and feed naturally for another interval. She kept this up until eight o'clock the next day, when I saw her.

At this time she had normal pulse, temperature, respiration, etc. I gave a physic of aloin and calomel, with sulphocarbolates and nux vomica to follow. She improved sufficiently to not have any more spells but she still reels and staggers when moved.

I had her poll and croup blistered, put her on syrup of iodide of iron with nux, but she does not improve much. Seems normal otherwise. Would like a reply from some 1909 graduate of Indiana Veterinary College. Has anyone yet tried out the peroxide treatment for pneumonia?

With what success is the Azolysin meeting in the treatment of azoturia?

Has anyone used Cutler's Blood Pure Powders enough to give us their scope of usefulness?

Try a little quinine and urea compound in your lead and glycerine for chapped teats.

Try a five percent solution of papoid into the tracts of your next cases of fistula along with Poly-Bacterins.

Will VETERINARY MEDICINE publish a list of the states showing their status as to veterinary legislation, secretaries of boards, etc.?

J. W. HARBAUGH, D. V. S.
Corydon, Ind.

—

[In some states, where an effort is being made to secure veterinary legislation, the legislatures are still in session. States adopting legislation during the past thirty days, regulating veterinary practice are: Idaho, Montana, and Oklahoma.—ED.]

RUPTURED MILK VEIN

November 6th I was called to see a four-year-old heifer.

Symptoms. Poor appetite; bowels distended with gas; constipation; temperature normal.

Treatment. I gave one and one-half pounds of salt with aromatics. Forty-eight hours later the owner reported animal much improved; appetite better; bowels moving about normal.

November 14th I was called again. The animal had no appetite; watery discharge from the bowels; total suppression of milk; peristaltic action of bowels absent.

Examination of abdomen gave evidence of fluid in abdominal cavity. I used an aspirator but could not draw off the fluid because it was too thick. I used eserine and pilocarpine, but secured no movement of bowels, and only slight salivation. I informed the owner that the cow would die and that if she began to suffer to destroy her.

November 15th, 11 a. m. she was unable to rise and suffering, so she was killed and an autopsy held.

Abdomen contained twenty gallons of curdled milk. Perhaps this is not an unusual case, but it was my first one.

——, Maine. J. F. B.

[The writer's attention is called to the fact that the "milk vein" does not carry milk and that milk is elaborated solely in the udder, an organ entirely outside of the abdominal cavity and with no direct connection with it.—ED.]

WHAT IS "DIGALEN"?

I noticed in a veterinary pamphlet not long ago, that "Digalen" is a specific for azoturia. Something like this was stated. "When great restlessness occurs with sweating, almost seven and the three-quarters grains of morphine hydrochloride solution and when calm has taken place about half an ounce of digalen is injected subcutaneously. In two, or at most, four hours, the patient arises and stays. Only in rare cases is it necessary to repeat the digalin the next day. The dark color leaves the urine naturally."

Now will some one kindly take up this matter and tell us what "digalen" is, where to get it, and all about it? If this is a reality let us hear from all who have used it.

J. W. HARBAUGH, D. V. S.
Corydon, Ind.

—

[Digalen is a preparation from digitalis marketed by the Hoffman La Roche, 65 Fulton St., New York City. Samples may probably be had upon application.—ED.]

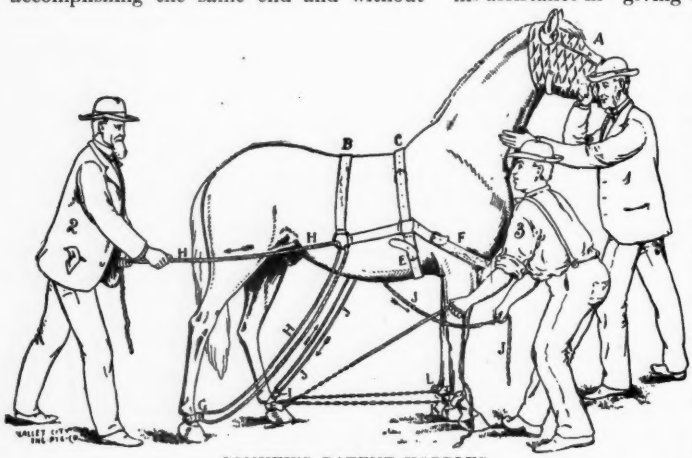
SURELY THE DEVIL SHOULD HAVE HIS DUE

Replying to the letter of Dr. Kenneth Chester, Dominion veterinary inspector at White Rock, B. C., in the February (1913) issue of VETERINARY MEDICINE (page 119), I beg your indulgence while endeavoring to correct his conception of my article, "A Trip to Ireland," which appeared in the December, 1912, issue (page 554).

"Veterinarians of Great Britain *as a class* are not up to the American standard in surgery." This was my impression from personal observation, and if Fig. 41 (page 25) of Professor Dollar's new work on surgery is to be taken as correct illustration of their method of casting horses for surgery, this conclusion appears to be well founded. Further, a comparison, or, to be more exact,

a contrast, of Dollar's work on veterinary surgery, and its archaic teaching, with Hoare's magnificent, up-to-date "System of Veterinary Medicine," just published, is further evidence of the fact that *medicine* is leading *surgery* by many laps in Europe.

There is no doubt but that a horse can be thrown down with the old side line in a barnyard (provided the fence is strong enough), but what about the sequels of many of these tussles? And why do people cling to these ancient, hazardous and barbarous methods when there are much safer, saner and more scientific means of accomplishing the same end and without



CONKEY'S PATENT HOBBLES

a chance of an injury either to the operator or to his patient.

In this same article we spoke of Dr. Hoare's method of chloroforming colts for ordinary castration, saying "It is our intention to manufacture a *modified* apparatus *similar* to the one used by the Doctor, for general use of American practitioners. Is this not publicly giving the Britisher credit for this innovation in anesthesia, or, to put it in Doctor Chester's words, "giving the devil his due"?

I agree with Doctor Chester regarding the use of chloroform in American (and of course this includes Canada). This last clause brings to mind a remark which we recently read in the *Veterinary Record*, of London, England. It appears that during a fiery debate at an association meeting, held at Manchester last summer, one of the members said to his colleagues, "You are all a pack of fools." Another veterinarian, gaining the floor, said: "Mr. Chairman, I suppose of course Mr. —— includes himself in his remark; if so, no offence is taken."

In the spirit of this veterinarian, no offence is taken. Further than this, we must inform the Doctor, and not only him but the profession the world over, that we have never laid claim to originality in a single instance where we are not prepared to establish the facts, and that we court investigation, so we hope the Doctor will lend his assistance in "giving the Devil his due."

However, I believe that if all qualified veterinarians would adopt our modified form of Dr. Hoare's apparatus for chloroforming colts for ordinary castration, a score of years would mark the passing of the "farmer castrator." Worth while, is it not?

If what Doctor Chester says of the use of the side line and clamp in North America is true we plead ignorance, and shall continue our campaign, urging the adoption of the "Conkey method" of casting and securing horses for castration, as well as for all field work.

We refer you to the following to show you that this is not a new method, but has stood the test of years, and without a single complaint from either practitioner or client: "In May, 1888," says Mr. H. Delong, of Penn, Cass Co., Michigan, "Dr. Conkey castrated six colts and one ridgling for us in less than forty minutes, and without apparent haste, laying each animal with his patent hobbles and securing harness, as herewith illustrated." And now, after more than twenty-five years of the most severe tests by Americans, one of the leading veterinary surgeons of Europe adds

his name to the long list of users and recommends the "Conkey method" as the best.

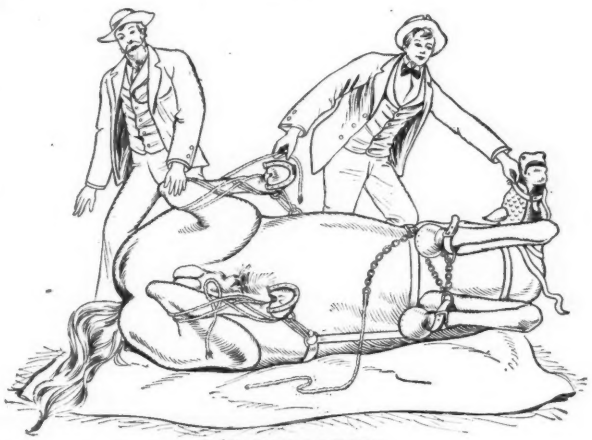
L. L. CONKEY, D. V. M.
Grand Rapids, Mich.

MORE ABOUT HERRING'S DISEASE

In the March number of the AMERICAN JOURNAL OF VETERINARY MEDICINE I had the pleasure of reading the very able article by Dr. L. J. Herring, of Wilson, N. C., concerning "New Symptoms of Shipping Disease in Horses and Mules."

I attempt in this article to set forth my experience and experiments with this new disease, which I have called, for want of a better name "Contagious Edema of the Throat."

On the arrival of a load of mules from Richmond, previously shipped from Kansas City, one showed a slight swelling of the throat and along the lower jaw.



CONKEY'S METHOD

FROM "DOLLAR'S SURGERY"

I lanced both swellings but got nothing but blood. Slight dyspnea was present: temperature 101.6° F. and pulse normal. I applied an antiphlogistic poultice to swelling. The next morning at seven o'clock there was seemingly no change. At ten o'clock the same morning I was sent for and on going immediately over I found the mule gasping and fighting for breath. It took four men to hold her while I performed tracheotomy, which gave great relief. The swelling now extended the whole length of the trachea.

The mule was unable to drink or eat. The second night the tongue, very much swollen hung out of the mouth and later was chewed until it simply hung by a thread.

There was gangrene of the lungs in this case. No petechial spots were on the mucous membranes.

My second case was about similar to the above except that petechial spots were present, and that the animal lived four days and showed marked improvement on the third day.

I got to my third and fourth cases when the swellings first appeared and applied a

drastic blister and injected an ampule of Abbott's Strepto-Bacterins and an ampule of Poly-Bacterins. The swellings remained about the same until after the injection of the second dose of Strepto- and Poly-Bacterins, when they began to disappear and immediately the animals' ability to eat and swallow well returned.

When I first put in my tubes they frequently became partially obstructed with a ropy mucous and I was forced to clean them often.

Since I first diagnosed this contagious edema of the throat every horse we have shipped has been injected with Strepto-Bacterins, with the result that practically no shipping diseases of any kind have appeared.

I sincerely hope that this article may be of some use to those who have this disease within their territory.

F. C. HERNDON.

Rocky Mount, N. C.

ESTRUS LARVÆ RESISTANT

The other day, February 19, 1913, I was called four miles south to see a colt that was out of condition. The colt had been running in a stock field all winter. Before I arrived the patient died. The post-mortem examination showed practically all the blood of the body between the skin and peritoneum, in the region of the belly.

The peritoneum and skin were separated enough to accommodate five to seven gallons of blood. The viscera, posterior to the diaphragm, were all crowded toward the back.

It was a cold, raw day and the autopsy was very gross, but I did not find any signs of an external wound or of a ruptured blood vessel. Any light or experience in this line will be read with interest. Just another word or so about the colt. I opened the stomach to show several farmers present the number of bots which would be found. They seemed so curiously interested that I took a portion of the stomach about the size of my hand, which was completely covered, for a specimen. This was placed in formaldehyde solution, three quarts of water and one ounce of formaldehyde. To my surprise those larvæ were still moving March 12th. This may not be a surprise to all who read this, but I venture to say it will to some. I have just examined the bots and found they are all dead. It is no surprise to me now why they are so hard to expel. If they can live three weeks in a one-percent solution of formaldin and without food, what can be accomplished toward removing them in their normal habitat?

V. J. ROBINSON, M. D. C.

Atlantic, Ia.

HERRING'S DISEASE BAFFLES OTHERS

Referring to Doctor Herring's article on page 171 of the March issue, will state that this malady has given me no little trouble in "green" horses and mules. I regard it as a laryngeal angina or diphtheria and treat it accordingly, sometimes with success but many times with failure.

I do not regard my success as any great accomplishment of mine, but the disease in this locality has not been so virulent as it has been in other sections. I am confident this disease is due to some micro-organism and has no relation to any form of forage poisoning as suggested by the B. A. I.

I have had a great many slight cases and but few severe ones.

The pulmonary lesions are due in my opinion to the exudate from the larynx going into the lungs. I have seen several ounces of sero-fibrinous exudate gush from the opening after performing tracheotomy. The animals which I have had to deal with were shipped from Missouri and Kansas.

One case which was a very large horse that had just began to breathe heavily I injected 10,000 units diphtheria antitoxin and in a very few hours the breathing was perfectly natural. Still I have had the same results follow the use of mercurial blister.

The last shipment received here was at my request injected with anti-influenza bacterin before being shipped and upon their arrival here I gave them each an additional injection. Only one of this shipment developed the disease in a severe form and two others contracted it in a very mild form. Great losses have oc-

curred in several sections of this state from this disease. The incubation period is about two weeks.

TRACY N. SPENCER, D. V. S.
Concord, N. C.

TEXAS VETERINARIANS GO TO COLLEGE STATION NEXT

The tenth annual meeting of the Texas Veterinary Medical held in Fort Worth, March 11th and 12th was a successful one in every respect. The officers elected for the ensuing year are:

R. P. Marstellar, president; T. T. Christian, vice president; A. A. Foster, secretary, and C. W. Maier, treasurer. The next meeting of the association will be held at College Station in November.

SUCCESS IN OKLAHOMA

After a year's strenuous work the Oklahoma Veterinary Medical Association has succeeded in having a law enacted regulating and defining veterinary practice. A special meeting was held March 18th to recommend names for a board of veterinary examiners to be appointed by the governor.

DOES ANTIHOG-CHOLERA SERUM INJURE THE HAMS?

Some reader please give their experience with the serum-virus or simultaneous method of vaccination for the prevention of hog cholera. I recently heard a B. A. I. inspector say, that the packers are avoiding the purchase of hogs vaccinated in the thigh, as it spoiled the sale of so many hams.

O. D. CHEDESTER, D. V. S.
Cordell, Okla.

PATTERSON'S TREATMENT FOR AZOTURIA SUCCESSFUL

I have used the treatment for azoturia recommended by Dr. E. E. Paterson, of Detroit, Michigan, in the March issue of VETERINARY MEDICINE with good, and satisfactory results.

March 10, 1913 I was called to treat a bay mare affected with azoturia in the left hind leg. She was down and I looked for a bad case.

I gave her a hypodermic injection of arecoline and orally citric acid and alum every two hours. Applied a stimulating embrocation and hot fomentation over the affected muscles. The next morning the animal was able to get up and eat a little hay and she did well after three days.

P. F. CORBEIL.
Montreal, Canada.

SEDATIVE AND CARMINATIVE

HAVE used the following in several cases of flatulent colic, and secured remarkably quick recoveries.

Turpentine.....oz. 1
Olive oil (commercial).....oz. 1
Fl. ext. hyoscyamus.....drs. 2

Why such quick results from such small dosage?

E. H. J., D. V. M.

DR. C. R. WALTER of Tulsa, Oklahoma has been appointed food and dairy inspector of that city.

PITTED AGAINST INTESTINAL CALCULI

Here is an interesting case that I diagnosed as impaction of the single colon. It was brought to me for treatment about 10 a. m. showing colicky pains.

History.—This horse was a nine-year-old, weighing 1200 pounds, was shipped to Meridian from Fort Worth, Texas, and sold to the Meridian fire department, and had been in their service for three and a half years. Had never been affected by colic up to this time. He had been off his feed and had a depraved appetite for about two months, would eat dirt and wood and would paw the plastering off an old wall and eat it. His bowels had been irregular for about two weeks and an attendant told me he had had only two small actions the day and night before he was brought to me for treatment.

Symptoms.—Pulse sixty, full and bounding; temperature 102° F.; visible mucous

membranes slightly injected; breathing accelerated and heavy; sweating; would lie down flat on one side and lay quiet for a short time, roll a little, get up, stand a few minutes, and repeat the performance; no flatulence and but very slight peristalsis.

Treatment.—Gave aloetic physic ball and also gave one-half grain of eserine an l one grain of pilocarpine, hypodermically. At 10:30 a. m. the patient was much more uneasy, due to the eserine and pilocarpine; passed a little flatus; repeated the eserine and gave one-half grain of arecoline and one-half grain of strychnine. I gave rectal injection of several gallons of warm water and soap, rectum empty, forcible straining on introducing arm into rectum.

11:30 a. m.: Patient much easier; drank a little water and nibbled at hay; would still lie down on the side most of the time but did not roll. Pulse had dropped to fifty and not so full and bounding; breathing still labored; mucous membranes about the same; temperature the same.

2:30 p. m.: Patient about the same as at 11:30: was given two ounces of carbonate of ammonia and one ounce of powdered nux vomica in a ball (Reeks); given rectal injections of warm water and soap, several gallons, which was at once thrown off as before.

4:30 p. m.: Patient more uneasy again; breathing more accelerated; sweating; pulse seventy and full; getting up and down and rolling; urinated, urine of high color; given one ounce of chloral, and a hypodermic injection of arecoline, one-half grain, and eserine, one-half grain; also rectal injection of warm water and soap; peristalsis good.

5:30 p. m.: Patient much easier; lying down most of the time.

8:00 p. m.: Patient restless again; pulse sixty; breathing accelerated; temperature 102° F.; mucous membranes about the same as at first; peristalsis good; rectal injections repeated; given two ounces of turpentine and two ounces of spirits of nitrous ether in a quart of linseed oil as a drench.

12:00 midnight: Patient easy; lying down on side; pulse fifty and strong; mucous membranes about the same; breathing heavy; patient drank considerable water; peristalsis good; temperature 101° F.

3:30 a. m.: Patient uneasy; getting up and down; rolling; sweating; breathing accelerated again; pulse fifty and strong; temperature 101° F. Given one ounce of chloral and a hypodermic injection of arecoline, one-half grain; rectal injections repeated and were immediately thrown out; urinated; drank a little water.

6:30 a. m.: Patient easy and standing; pulse fifty; mucous membranes slightly more injected and slightly icteric; temperature 102° F.; peristalsis good. Rectal injection repeated, part of it retained some time.

January 12th, 8:30 a. m.: Patient still easy, lying down on side. Symptoms about the same as at 6:30.

10:00 a. m.: Patient rolling a little at times. All symptoms about the same. Gave two ounces of carbonate of ammonia and one ounce powdered nux vomica in ball. The rectal injection was repeated and thrown out again immediately and there was much straining on introducing arm into rectum.

1:30 p. m.: Patient about the same as at 10:00 a. m., except lying down most of the time quietly.

5:00 p. m.: Patient a little uneasy at times, otherwise symptoms about the same as at 1:30. I gave one-half grain of arecoline and one-half grain of strychnine. Rectal injections were thrown out again as before; patient urinated.

10:30 p. m.: Patient about the same as at 5:00 p. m. I gave another ball of carbonate ammonia, two ounces and powdered nux vomica, one ounce.

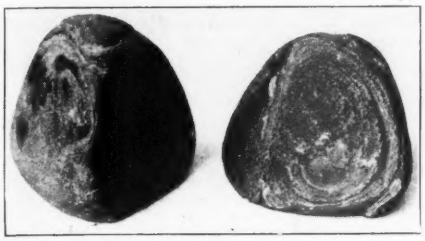
January 13th, 8:30 a. m.: Patient much improved, seemed better all day. Gave one quart of linseed oil and a rectal injection, which was not retained. The patient drank several buckets of water during the day. Gave same treatment as the day before.

Tuesday, 14th, 8:00 a. m.: Patient a little uneasy again; pulse seventy but still strong; breathing labored; temperature 102.5° F.; mucous membranes about the same as the day before. Gave carbonate ammonia and nux ball.

12.00 m.: Patient the same as at 8:00

a. m. Drank a bucket of water. Lying down most of the time; rolled a little at intervals. Gave rectal injections, which were immediately thrown off. Pulse about seventy and strong and regular; temperature 102.5° F.; mucous membranes slightly more injected.

4:30 p. m.: Patient a little more uneasy; pulse eighty but still full and strong; breathing a little faster and labored; temperature 104.2 °F. Gave one grain of arecoline and one-half grain of strychnine. This produced a very distressing condition; there was extreme salivation and attempts at vomition, and patient did emit quite a little sour-smelling frothy material from



INTESTINAL CALCULI
Weight of one 1¾ pounds; of the other 2¼ pounds

nostrils during these attempts; sweating and nervous trembling. Did not lie down and roll. After the effects of the arecoline passed off the patient drank a bucket of water and seemed easier and brighter for two hours.

8:00 p. m.: Patient lying down; rolling a little at intervals; pulse seventy-two, but still strong although not so full, seemed smaller but regular; temperature 105° F.; breathing very labored; patient seemed much distressed. Patient died at 10.00 p. m.

Wednesday, 11:30 a. m., held post-mortem examination. The carcass had scarcely swollen at all and was not very stiff. On opening abdomen there was quite a little straw-colored fluid in cavity from slight peritonitis. No doubt this accumulated after death. There was very slight inflammation of intestines, all other organs normal. On examining single colon came across two hard objects about midway of colon. On opening up colon I took out two triangular-shaped calculi. One had a perfect triangular base and three triangular sides, and weighed one and three-quarter pounds. The other had a rectangular base and four triangular sides, like a pyramid, and weighed two and a quarter pounds.

I am enclosing photograph of the two calculi or concretions. They are very hard and stone-like.

EDGAR HEINY.

Meridian, Miss.

LOOK FOR THROMBI

Will some one please give me, through the columns of the journal, a diagnosis of that form of intestinal trouble in horses, where there is a manifestation of violent pains in the abdomen, with death in from twelve to eighteen hours. Postmortem showing double colon and cecum edematous, peritoneal covering of these intestines bluish discoloration and the mucous membrane thickened, almost black and very easily torn. Stomach and small intestines normal or nearly so. Please give reasons for diagnosis.

M. M. McCOY, D. V. S.

Garfield, Wash.

FORMULA FOR AN INSECTICIDE

In a recent issue of VETERINARY MEDICINE, some one asks for the formula for an insecticide. Here is one that will do the work.

Napthalin, ten percent; tobacco, ten percent; sulphur re-sublimed, ten percent; calcium sulphide, seventy percent. Mix and use as dusting powder.

FRED SEGSWORTH, D. V. S.

Lodi, Calif.

TREATMENT FOR A HORSE THAT SCOURS

In reply to V. S. in the January issue of the AMERICAN JOURNAL OF VETERINARY MEDICINE on page 70.

At the start allow us to say that chronic diarrhea is exceedingly disagreeable. This is particularly true of driving horses. Also allow us to state that chronic diarrhea can be controlled to a certain extent, but it cannot be cured. The cause of the above

"SPRINGTIME SURGERY"

By C. A. Schutz, Ellsworth, Kansas

Fig. 1

Fig. 2

Fig. 3

Fig. 4

condition is overheating a horse, when he is in a plethoric condition. This purges him and he never gets over it. The mucous membrane becomes excessively irritated and this excites the sympathetic nerves which control the bowels. The result is chronic diarrhea.

Treatment. As stated before, the condition once established is incurable but by proper hygiene and treatment the horse can be kept in a comfortable condition (both to himself and driver). Feed only the best of food in rather limited quantities, especially hay. If thrist is excessive limit the supply of water and add a little hydrochloric acid (dilute) to each pail. Examine teeth to see that he can masticate properly. Do not feed much corn, oats or bran.

When starting out for a drive, go slowly for awhile, increasing the speed gradually. The following prescription if faithfully given will prove useful in many cases, but it must not be lost sight of that the hygienic care and feeding of the animal is almost, if not quite, as important as the medicine given.

℞

Sodium bicarbonate.....drs. 2
Pulv. gentian rad.....drs. 3
Pulv. Carbo. Ligni.....drs. 3
Powd. Zingiberis.....oz. 1
Pulv. Quercus alba cor.....drs. 16
M. Fiat chart No. LX.

Sig. One powder in feed night and morning.

In bad cases it may be necessary to give the above powders continually. If the case will allow of it, it is best to leave off treatment for a week or so, then give as before.

As regards treatment for belching colic—acute gastric tympany. The stomach tube is by far and away the best and only proper treatment. It removes the cause without further ceremony. If V. S. does not care to use the tube then Oleum Terebinthinae rectified (Merck) is the drug of first choice, in one to three ounce doses. Do not repeat the three ounce dose over twice. Creolin (Merck) in one-half to one-ounce capsules is good, also salicylic acid dissolved in aromatic spirits of ammonia, in the usual dosage is often times useful.

Prof. Reeks recommends the following prescription:

Ferri Sulp. ex.....oz. 1
Aquae.....pts. 2
Liq. Ammon. fort.....drs. 4
M. Sig. Give at one dose.

Personally I have never seen any improvement following the administering of the above and would very much prefer turpentine, creolin, or salicylic acid.

Hazel Dell, Ill. R. F. REEDS.

[See "Diarrhea in Horses," page 255.]

TRIPLET CALVES

The photograph gives an idea of the stock-raising possibilities of Oklahoma.

CATTLE-RAISING POSSIBILITIES IN OKLAHOMA

The cow is of shorthorn breed. The owner informed me that she went the usual time and gave birth to three beautiful heifer calves, all of which are in the best of condition and each one of which was as large as the ordinary calf at birth.

There is no history of twins or triplets in any of the ancestors, nor in any previous pregnancy of this animal. All the calves are marked exactly alike except for a white spot in the forehead of one. J. E. NANCE.

REPLACEMENT OF AN EVERTED BLADDER

In the January number of the journal, just to hand, is an article by Doctor Broderick on Eversion of the Bladder, which reminds me of an experience of mine last April which may be interesting to your readers.

I was called over the phone to come to the place of a Japanese farmer, twelve miles distant, to see a sick horse. When I arrived I found a 1100-pound mare, that had foaled the day before, lying on her side in a dusty corral. Protruding from the vulva was a balloon-shaped organ as large as a two-gallon bucket. The Jap had evidently taken this to be the uterus and attempted to replace it, but finding it too large to go back the way it came he had restored to surgery to make a larger passage, for the whole perineum was neatly divided to a depth of three or four inches, and cutting down to the vaginal passage. Failing to replace the organ and being now at the end of his resources in anatomical knowledge he had concluded to call in expert assistance. I asked him what he had used to do the job with and he said he had used a razor.

The mare was in some distress, but we got her on her feet and she stood while I washed the bladder with hot water and disinfectants.

Then by partially closing the fingers of my right hand and pressing against the fundus of the bladder, with the help of an assistant, we soon had the organ back to its natural position. However my hand being very small was carried through the urethral canal, and owing to the clinging nature of the walls of the bladder I had some little difficulty in extricating it. In order to

prevent a recurrence of the eversion I made a tobacco-pouch suture around the meatus urinaris to prevent too much dilation of the latter when straining.

I also made an attempt to suture the perineum, but had little hope of a union resulting.

I left fever medicine and antiseptics for irrigation and promised to return in four days. On my second visit I found the mare doing well, still some elevation of temperature and urine voided at frequent intervals.

I removed the sutures from the meatus and some from perineum, but latter was not uniting. Called again in one week and found mare entirely recovered. Urine voided naturally and perineum healing nicely, but of course no union between anus and vulva.

FRED SEGSWORTH, D. V. S.

Lodi, Calif.

A FLANK OPERATION IN DYSTOKIA

Some time ago a client of mine called and said he had lost two of his best brood sows farrowing and wanted to know if I could not take the pigs from the sow through the side. I replied by saying I would try. So in a few days I tried. When called I found a sow weighing about 250 pounds had been laboring since the night before with no pigs in sight. She was then taken to a clean and warm place and the operation began.

1. Complete anesthesia with chloroform.
2. The entire side was thoroughly scrubbed and disinfected with eucamphine.
3. An incision about five inches long was made in the left flank, through the skin and connective tissue. The abdominal muscles were then divided with the fingers and the peritoneum was broken down in the same manner. The first thing noticed was the escape of about one and one-half quarts of abdominal fluid.

The left horn of the uterus was then drawn to the abdominal opening with the left hand and an incision was made on the upper border of the uterus. The first noticed was a pig leaving the left horn and had missed the vagina and started up the right horn, making a dorsal presentation. This was the only pig in the litter dead, the rest were alive and strong.

The pigs were then removed with a pair of rat-tooth forceps and the placenta removed. The uterus was stitched with catgut (using the Lambert stitch and bringing the serous surfaces together). The peritoneum was stitched with catgut catching the muscles at the same time. The skin was stitched with heavy linen, this also catching the abdominal muscles. The sow was then left to herself until evening when she was given a little slop. The owner informs me she never missed a feed. About ten days later I was called to the place again and I asked to see the sow and I must say I was surprised as she had lost but very little flesh and was running with the rest of the hogs.

There was no after treatment, except rectal injections to relieve constipation.

I am reporting this to help some one else who is called upon to treat a case under the same conditions.

W. A. MOELLER, D. V. S.

Pocohontas, Ia.

SPECIAL AND REGULAR MEETINGS OF NEBRASKA VETERINARIANS

A special meeting of the Nebraska Veterinary Medical Association was held in the Veterinary building at the University Farm, Lincoln, Nebraska, on December 30, 1912, for the purpose of discussing various legislative measures, particularly the creating of a State Live Stock Sanitary Board and the proposed amendments to the Veterinary Practice Act.

ONE OF MICHIGAN'S DOUBLE HEADERS

This monstrosity was delivered by Dr. A. J. Howard, Coleman, Michigan

Dr. J. S. Anderson, chairman of the Legis-

lative Committee, reported that amendments to the Veterinary Practice Act had been drawn up and were ready to be submitted to the Association for discussion. After considerable discussion these proposed amendments were adopted as presented. The Committee had also been working on a bill to create a Live Stock Sanitary Board.

It was then moved and carried that the Legislative Committee be authorized to act with the Committee appointed by the livestock associations as they deem fit, with a view of arriving at some agreement as a basis of cooperation in drafting a bill whose provisions would be fair to all concerned.

Meeting adjourned to meet again the following morning at 9 o'clock.

On Tuesday morning, December 31, the meeting was called to order by Dr. Sprague. Dr. Anderson reported that during the interview which the Legislative Committee had just had with Mr. Crocker, secretary of the Live Stock Committee, it was mutually decided that a bill should be drafted to create a Live Stock Sanitary Board, said Board to be composed of four prominent livestock men and one veterinarian, these to be appointed by the Governor, and they to appoint the state veterinarian who would be the executive officer of the Board.

STARTING A CALL IN NEW ZEALAND

This type of vehicle is common in Great Britain. Many veterinarians use it. The gentleman shown above is James Hair, Oamaru, New Zealand

After considerable discussion it was decided to render all possible support to this bill in the next legislature.

Dr. W. H. Tuck, chairman of the Prosecuting Committee, was then asked to report, and replied by asking that Dr. Norden, the secretary of this Committee, be allowed to render this report as he had more of the data. Two empirics had been prosecuted, one in Lincoln by the name of Vincent, who was convicted and fined $25 and costs upon being re-arrested after having had his bond of $200 forfeited for non-appearance the first time a week previous. The other was Gregg, at Litchfield, Nebraska, who

was prosecuted and fined $25 and costs in the county court at Loup City, Nebraska.

A motion was then made and carried authorizing the Committee to collect further contributions to the prosecuting fund from the veterinarians over the state, to enable it to continue its work.

The Association adjourned until the regular meeting in January.

The annual meeting of this Association was held in the Veterinary Building at the University Farm, Lincoln, Nebraska, January 14, 1913, and was called to order by the president, Dr. J. D. Sprague.

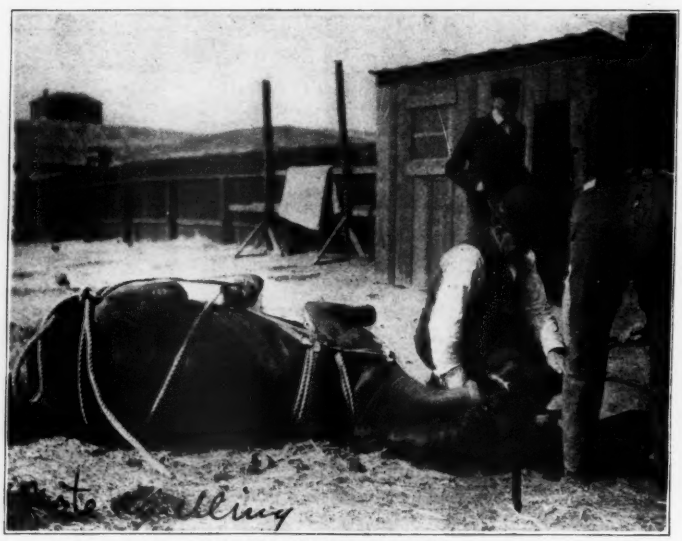
After the reading of the minutes of the previous meeting by the secretary, Dr. W. H. Tuck, and their approval by the Association, Dr. Anderson, as chairman of the Committee on Legislation, was asked to report. In response to which he reported good progress with the Live Stock Sanitary Board Bill and the one providing for amendments to the Veterinary Practice Act, both of which would soon be ready to introduce into the legislature.. This report was made to a most appreciative audience, as every one felt that the Committee had worked hard and earnestly in trying to obtain these two important measures, which are so badly needed, and the tact and diplomacy used was most commendable.

Dr. J. A. DeCow, chairman of the Executive Committee, reported on twenty-five candidates for membership as being properly vouched for, who on motion were all unanimously elected members of the Association.

After the disposition of the various business matters the following officers were elected for the ensuing year.

President, Dr. J. C. Bowman, Tecumseh; vice president, Dr. L. P. Carstenson, Columbus; secretary and treasurer, Dr. Carl J. Norden, Nebraska City.

CARL J. NORDEN,
Secretary and Treasurer.
Nebraska City, Neb.



DOCTOR KNOWLES' CASE

TAENIA PERFOLIATA A PLENTY

A four-year-old horse, of the draft type, was suddenly taken sick, when within half a mile of town. The owner brought the animal to my hospital as quickly as possible.

Diagnosis: Enteritis; prognosis, unfavorable. The horse lived about two hours.

Autopsy: On opening the small intestines I found at the very least a gallon pail full of tape worms of which I am sending you a few specimens.

C. H. KOON, M. D. C.

Kingsley, Ia.

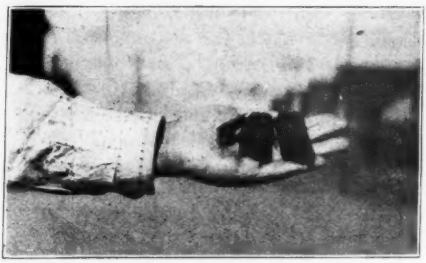
ENORMOUS FOREIGN BODY IN THE ORBITAL FOSSA

Observing a cut showing pieces of wood from a horse's hoof (VETERINARY JOURNAL for February, 1913, page 83) induces me to send a photograph of a piece of wood re-

moved from a standard bred stallion's left eye; also a photograph of the stallion cast. The operation shown was performed in October, 1908.

History: The stallion was confined in a circular pole corrall. A mare, in heat, on the outside, attracted his attention and he rapidly circled the enclosure in his excitement, striking the end of one of the poles, which was partly decayed and very brittle. The result of this collision was the penetration of a piece of the end of the pole shown in the photograph, the entrance being at the upper, outer canthus.

The accident occurrred about the last of June, 1908; the veterinarian who was called to examine horse on the day of accident, failed to locate the foreign body. On October 1st, 1908, the writer was called,



Pieces of wood removed by Doctor Knowles

and discovered a fistulous opening at the point of entrance of the wood at the upper margin of the orbital arch, just above the outer canthus. The introduction of a probe readily discovered a foreign body, therefore an operation was urged. The horse was cast, and secured, the incision being made just under and entirely around the orbital arch, sufficiently large to warrant the introduction of two fingers; carefully separating adhesions down on the end of the object, which made it possible to introduce Lyon holding-forceps, with which the enormous object was removed. The piece of wood is three inches in length, two in breadth, and one-half inch thick; the object, of course being broken irregularly by force of contact. A number of smaller splinters were also withdrawn.

The marvel is that the eyeball was and is intact; it became slightly atrophied, and a cataract developed, evidently from pressure. However, the remarkable thing in connection with this injury is that the eyeball escaped destruction. Of course, vision is gone; nevertheless, it would require close observation today, by an expert, to detect any abnormality in the eye. The pieces of wood are still in my possession, and should any of the veterinary colleges desire them for museum purposes, the first request will be honored.

Note the enormous swelling in the superior orbital region. This horse, though now quite old, is really in good health since the operation. This story exemplifies the possibility of a great momentous injury without total destruction of an organ.

Please note the hobbles; my own design, with which I have cast hundreds of horses during the past twenty-five years, without a single injury to any of them. The principle of this hobble is to lay the horse down as he naturally assumes a recumbent position. Any of the extremities can be released quickly and secured in any desired position for operation.

M. E. KNOWLES.

Helena, Mont.

KANSAS VETERINARIANS IN ANNUAL SESSION

The ninth annual meeting of the Kansas Veterinary Medical Association was held in the Commissioner's Chambers, Topeka, January 7th and 8th.

The attendance was good, the program excellent, and the discussions instructive.

In addition to the interesting subjects presented by Drs. Kinsley, Maxwell, Kern, Shetler and other members, "The Fundamentals of Good State Live Stock Sanitary Control Work," by Dr. M. H. Reynolds of Minnesota was much appreciated and discussed. Dr. Reynolds pointed out how a livestock sanitary board, free from political fear or favor, is of inestimable value to the livestock interests of a state.

Resolutions were passed favoring the passage of the Army Veterinary Bill, and the secretary was instructed to send a copy of the resolutions to each member of the Association and to the Kansas delegation at Washington.

A resolution favoring President H. J.

Waters of the Kansas State Agricultural College for the portfolio of agriculture in President Wilson's cabinet was also passed.

The following officers for the coming year were elected: Dr. J. F. Hemphill for president, to succeed Dr. W. H. Hobbs; Dr. C. B. Kern for member of executive board to fill a vacancy caused by the expiration of Dr. Hemphill's term of office. Dr. J. H. Burt was re-elected secretary-treasurer.

Twenty-three new members joined the Association. The Association members number five-sixths of the graduates of the state, a good showing for an association that began its career nine years ago with a membership of thirteen.

The Association adjourned, to meet at a time and place to be decided upon later by the executive board, and notice of which will appear in this publication.

J. H. BURT,
Secretary-Treasurer.

Manhattan, Kan.

KENTUCKY VETERINARY MEDICAL ASSOCIATION

The annual meeting of the Kentucky Veterinary Medical Association was held at the Agriculture Building of the State University, Lexington, Ky., January 7th, 1913.

The meeting was called to order by President F. T. Eiseman, and the regular routine of business of the Association was then proceeded with, and the following officers were elected for the coming year: President, C. A. Miller, Louisville, Ky.; first vice president, Dr. S. F. Musselman, Cynthiana, Ky.; second vice president, Dr. John T. Shannon, Lexington, Ky.; secretary and treasurer, Dr. W. B. Robinson, Mt. Sterling, Ky.

The following members were present: F. T. Eiseman, Robert Graham, John T. Shannon, O. S. Crisber, L. M. Land, J. K. Ditto, J. W. Jameson, W. B. Robinson, Allen S. Barnes, T. L. Breeck, R. M. Bryan, E. Calldemier, John T. Chawk, R. W. Deats, John W. Rollins, M. A. Purdy, J. T. Smoot, P. Christler, C. D. Seay, R. S. Pontius, C. A. Miller, S. F. Musselman, R. P. Moody, J. T. Simmons, B. H. Bueter, R. J. Payne, C. E. Stockton, D. M. Stamper, William F. Reide and Lewis McElyea.

The visitors present were, Dr. Harthill, Dr. Grey, Dr. Moore, and Dr. Thompson.

Dr. Robert Graham, of Experience Station, Lexington, gave a practical and very interesting talk on "Hog Cholera; Its Immunization and Treatment." It was followed by many questions, and much discussion.

There were five applicants for membership, and four were accepted.

Dr. Robert Graham and Dr. Lewis McElyea, both of Experience Station, Lexington, Ky., skillfully demonstrated to the Association, the vaccination of two pigs, weighing sixty pounds each. Each pig received 30 Cc. of serum and 2 Cc. of virus; this was followed by Dr. A. J. Payne's talk on sheep scabies and its eradication. After the discussion on sheep scabies the following papers were read: Dr. Jameson, on symptomatic anthrax; discussion by Dr. Ditto. Dr. L. M. Land, on pneumonia, and its treatment; discussion by R. P. Moody. Dr. F. T. Eiseman, on tuberculosis; discussion by M. A. Purdy.

This Association is rapidly becoming stronger, binding together their original thoughts and scientific knowledge of veterinary medicine. We hope to become so organized, that in the near future we will be able to secure a law that will put our profession on a higher plane, as a scientific profession, and put the empirics out of the running.

W. B. ROBINSON,
Secretary-Treasurer.

Mt. Sterling, Ky.

ANNUAL MEETING OF THE VIRGINIA VETERINARY MEDICAL ASSOCIATION

The nineteenth annual meeting of the Virginia State Veterinary Medical Association was held in Richmond, Va., January 9th and 10th, 1913.

President J. G. Ferneyhough of Burkeville called the Association to order, and, in a few well-chosen words, introduced the Hon. Roswell Page, a brother of the distinguished Virginia novelist, who de-

livered a very excellent address of welcome. The address of welcome was responded to by Dr. Faville. Dr. W. Horace Hoskins, of Philadelphia, was present, and gave a very interesting talk in his usual happy style. While the Doctor is still a young man, his allusions to the early history of the profession in the United States emphasized the fact that time is flying and veterinary history being made rapidly.

Upon the recommendation of the Board of Censors five new names were added to the roster. Several instances of unqualified practitioners, and other violations of the veterinary practice act, were reported, and the whole subject was referred to a committee with instructions to report at the next meeting.

Dr. W. G. Chrisman, state veterinarian of North Carolina, gave a very full report of his work in the prevention of hog-cholera by the use of antihog-cholera serum. His work in North Carolina has been eminently successful, but from the discussion of the subject, and the experiences as related by the members present, it would seem that the serum supplied by the State of Virginia is not uniformly reliable.

Dr. R. W. Hickman, chief of the Quarantine Division of the Bureau of Animal Industry, read a very interesting paper on the prevention of the introduction of disease through the importation of livestock from foreign countries. Dr. Hickman's paper recounted several instances where sura, rinderpest and Malta fever had been stopped through the careful work of the division of which he is chief.

At our elegant banquet we had as our guests, the Hon. William Hodges Mann, governor of the state, Hon. J. Thompson Brown, chairman of the State Live Stock Sanitary Board, Prof. W. D. Saunders, state dairy commissioner, Hon. Henry C. Stewart, Dr. George Ben Johnson of the Virginia Medical College, and Dr. W. Horace Hoskins of Philadelphia. Dr. George C. Faville acted as toastmaster and introduced each of these guests who responded in the happiest possible vein, and all of their talks were very greatly enjoyed. A peculiar fact is, that each of these speakers pressed home the lesson of personal service for the public good. Such influences as are represented by these men are of incalculable benefit to the profession.

After the banquet the election of officers took place, and resulted as follows:

President, Dr. R. R. Clark, of Hampton; first vice president, Dr. J. S. Meyerhoffer, North River; second vice president, Dr. H. Bannister, Roanoke; secretary and treasurer, Dr. George C. Faville, North Emporia.

The Committee on Resolutions reported a resolution requesting the attorney-general of the state to call the attention of the commissioners of revenue of the various counties of the state to the law regarding the issuing of licenses to practice veterinary medicine in this state. A resolution was also adopted urging our senators to do all possible to secure the passage of the Army Veterinary Bill by the Senate. After the usual votes of thanks to those who had helped to make the meeting such a success, the Association adjourned, to meet in semi-annual session at Old Point Comfort, Virginia, on the second Thurdsay in July.

GEORGE C. FAVILLE.
Secretary-Treasurer.

North Emporia, Va.

DEATH FROM AN OLD PERFORATION OF THE DIAPHRAGM

On December 10 I had a hurry-up 'phone call to attend a 1000-pound brown mare, which was found sick that morning and was acting very strange, although she seemed well the preceding evening.

On examination I found the respiration forty and labored; temperature 101° F.; pulse sixty and very feeble; spasmodic contractions of the diaphragm; some symptoms of colic, but she did not lie down. On auscultation I could not detect any intestinal sounds. I then passed the stomach tube, but no gas escaped.

I asked my client if he thought the mare could have been injured in any way recently. He replied saying that about thirty hours prior to that time, he saw her and a gelding fighting, but the mare was getting the best of it. He was confident that the mare did not get kicked at all, although she had done some violent kicking.

On manipulation we found on the left side of the chest a complete fracture, at the lower third of the eighth rib.

There was no fever, no edema, nor scarcely any pain on pressure in that region. Prognosis unfavorable.

In a few hours the mare died and the autopsy revealed the following lesions:

An oblong opening through the left side of the diaphragm, about three inches long, the edges being healed, and both ends of the fractured rib had become smooth, showing that the traumatism was not of recent occurrence.

There was no inflammation in the plural wall or diaphragm. About twelve feet of the small intestines had protruded through the rupture and strangulated, which caused the death.

The supposition is that the fracture and rupture had occurred several months prior to this, and at the same time that the rib had penetrated the diaphragm, and when she did the violent kicking the day preceding my visit there was too much of the intestines dropped through the rupture and that strangulation resulted.

O. D. CHEDESTER, D. V. S.
Cordell, Okla.

CANKER OF THE FOOT IN HORSES

Canker of the foot of the horse is supposed to be due to a vegetable parasite, probably one of the higher fungi. It sets up a chronic inflammation in the deeper tissues of the foot; there is given off an offensive acrid discharge which destroys the frog and sole of the foot. Heavy, coarse breeds of horses are more susceptible to this disease than are the lighter and finer breeds.

Cause.—The essential element in the production of canker is, of course, the parasite, and therefore the disease is contagious. As in other contagious diseases, due to parasitic causes, the germ must find a suitable habitat before it can develop and reproduce itself, hence the great importance of those predisposing causes which prepare the tissues for the reception of germs of this disease.

The conditions most favorable to the development of canker are damp, filthy stables and yards, and neglect to keep the horses' feet clean; it seems that dampness and filth are indispensable to the existence and development of the parasite, for the disease is never found where the feet are kept clean and dry. All wounds of the feet when neglected are exposed to filth and increase the susceptibility of the animal to infection. But neither the injury nor the inflammation of the tissues are sufficient to alone induce the disease.

Symptoms.—Canker may attack one, or more feet at the same time. When the disease follows an injury which has exposed the soft tissues of the foot, the wound shows no disposition to heal, but there is excreted from the inflamed parts a profuse thin ichorous and offensive watery discharge, which gradually undermines and destroys the surrounding horny sole and frog; the tissues are swollen, dark-colored, and covered with exuberant horny granulations, yellowish in color, and thready. These are constantly immersed in the abundant liquid secretions, which escape to the surrounding parts and are of a very offensive odor. If the disease originates independent of any injury the first evidence will be an offensive odor in the center of, and around the frog, accompanied by a watery secretion, and carious condition of the horny sole; lameness may or may not be present in the earlier stages of the disease, but sooner or later the foot becomes very tender and lameness will appear.

Treatment.—The indications for treatment are first to restore the health of the animal to a normal condition by the administration of cathartics and the daily administration of a mild diuretic, after which administer two or three times daily such tonics as iron, iodide potassium, and arsenical solution. The local treatment should consist of the proper paring and cleaning of the foot and the application of a shoe so arranged as to secure the dressing in apposition to the diseased parts. The remedies I have found most successful are deodorizers, antiseptics, astringents, caustics, and solution of iodine, and iodide potassium applied by means of absorbent cotton and oakum, finally concluded as the foot recovers by applications of pine tar and

sulphuric acid in pads of oakum. The practitioner's skill will likely be taxed to the limit in the successful treatment of this disease, as it may recur even when a cure seems almost complete. Therefore the feet should be carefully watched and cared for, for some time after the apparent cure. Any indication of a recurrence should at once receive attention.

WALTER T. JONES.

Decatur, Ill.

UNUSUAL TYPE OF SCHISTOCORMUS REFLEXUS

The night of February 24, 1913, I was called to see a cow in labor, when I saw my patient I was greatly surprised to see part of the intestines of the fetus, protruding from the cow's vulva. But after making a careful examination was surprised still more to find that the only thing within my reach was a spinal column, bent in a half circle and entirely devoid of skin, and appearing to be wrong side out. Owing to the position of the fetus I was unable to locate the attachment of the intestines to the body or to move the mass in any way, ossification being so complete. Consequently embryotomy was out of the question.

Hooks and other instruments tore out readily and to get a cord around any portion was impossible, so after several hours of work, the patient, being very weak, was destroyed.

A post mortem examination revealed a very unshapely mass, the intestines being loosely attached by means of peritoneum, to the side of the body, which was twisted in a half turn at the atlo-axoid articulation, the twist extending to the lumbosacral articulation. Both hind legs, the tail, and one foreleg were given off at one place, the foreleg and tail coming from between the hind legs. The skin, which evidently should have enclosed the intestine, formed a perfect sack over the head and other foreleg. The latter was attached only by a small strip of muscle and bent downward around the head. The sack was lined by a coat of hair and contained a thick gelatinous fluid. Before this photograph was taken I opened the sack to expose the head and forelegs.

While different forms of schistocormus have been reported from time to time I wish

to let brother practitioners pass their opinion on this one.

L. M. UNDERWOOD, M. D. V.

Tomah, Wis.

TURPENTINE A NEAR-SPECIFIC FOR AZOTURIA

For some years I have read, with considerable interest, the different methods of treatment for azoturia, and more especially the different lines of medication with the many different drugs used, and I herewith send you a brief description of the treatment, which I usually adopt. I consider it unnecessary to touch on the etiology, morbid anatomy, semeiology, etc., of the disease.

I have used practically only one drug in the treatment of azoturia over a period of about twelve years and with good success. The fact that I have not had a death from azoturia during that time, I attribute to coincidence or luck, neither had I muscular paralysis following any case.

The treatment which I followed out, except in one case, which I treated with

adrenalin alone and which made a wonderful recovery, I carried out briefly as follows:

I first make the horse comfortable, and, if down, I use plenty of short straw, and pillows made by filling several bags with straw. If very restless, I administer chloral, cannabis indica, and potassium bromide, though chloral alone gives satisfactory results. Then I impress upon the owner or attendant the necessity of keeping the horse quiet, and making arrangements for a man to be left continuously with him, to soothe him in his delirium, "even pet him if that tends to keep him quiet," to keep him comfortable and prevent him from injuring himself. I then administer oleum terebinthina, two to four ounces, according to size of horse and severity of case, following with one ounce every three hours until disease is checked or until eight ounces altogether have been given. I draw off the urine every six hours, and give a purgative at the commencement of the treatment consisting mainly of one ounce of aloes. It is good treatment also to give at same time about one grain of arecoline, though I have on several occasions given no cathartic. Locally, I apply a little stimulating liniment over the affected muscles, followed by hot applications, blankets wrung out of hot water or heated oats. I also frequently give enemas.

I allow the horse all the water he desires to drink, giving only a little at a time, but frequently, until satisfied, assisting him if necessary on to his sternum, so that he can drink easily, and with comfort.

I will not discuss the question of putting a horse suffering from azoturia into slings, further than to say that it should not be done indiscriminately; judgment should be exercised. The horse, however, if down, is much benefited by being helped upon his feet even if he can stand but a short time, and only when the veterinarian in attendance thinks the horse is able to stand, should he attempt to raise him. Fighting and struggling to raise a horse that is unable to stand, does much harm in early stages of this disease.

A horse when down ought to be turned from side to side as often as necessary according to restlessness, probably about every four to six hours.

I have recommended for some years that muscular paralysis and atrophy ought to be treated by intramuscular injections of turpentine, and have recently got reports concerning its use, which leads me to believe that such treatment can be relied upon to aid materially in the recovery of the lost power and in overcoming the degeneration or atrophy of the muscular fibres.

I do not think there is any advantage to be gained by discussing the physiological action of oleum terebinthinæ in the treatment of azoturia, as the pathology of the disease is not yet understood, so far as I have learned. The conclusions of Hutyra and Marek, Frohner, McFadyean and others do not exactly explain the pathology of the disease, and I, at least, am of the opinion that there is much yet to learn regarding it.

The following short synopsis of three reports (including thirty cases) recently received by me from veterinarians, can not fail to be of interest.

1. *Subject—brown gelding, weight 1600 pounds.* Case severe, violent struggling, very profuse sweating, temperature 103° F. As the weather was good this case was treated in the field, making horse as comfortable as possible.

I gave ol. tereb., 4 ounces in capsules, physic ball—aloes, 8 ounces, gr. 1 of arecoline hypodermically, and oz. 1 of chloral in capsule. As the horse was struggling violently I applied heated oats to the affected muscles, viz. loins and gluteal region and had a fresh supply heated and applied every two hours. I drew urine, which was almost black in color and small in quantity. The chloral acted as desired. The horse was well nursed and kept as quiet as possible. I gave ol. tereb., oz. 1, every three hours until three doses had been given, another ounce of chloral was required and given after the fourth dose of turpentine had been administered; in a short time after this the horse managed to regain his feet with a little assistance. We walked him carefully to a box stall about 150 yards distant, made him comfortable with blankets, but he was still very stiff, affected muscles were still swollen and hard, so we kept the heated

oats applied. The urine was again drawn off, and was still dark in color and but a small quantity of it.

The horse about this time became again more restless and was given one ounce more of chloral, which gave a good sedative action. In another three hours the horse was given another ounce of turpentine. Shortly after this he began to show signs of inprovement. He was given plenty of fresh water to drink and kept as comfortable and quiet as possible during the night. At eight o'clock next morning he was still somewhat stiff, so I gave one grain of arecoline, which acted later in the day, and the horse then made a rapid and complete recovery. He was given no food until the purgative had acted, and then only soft light food with careful exercise for a few days. This horse was given in all eight ounces oleum terebinthinæ in about sixteen hours.

During the same week in May, 1912, I treated fifteen cases of azoturia in the same way, fourteen of these recovered, one died, but this horse was almost dead before I reached him. He had been down quite twenty hours and had received no attention. He died in less than one hour after my arrival.

I did not in treating any case use less than three ounces of oleum terebinthinæ at the first dose.

I am of the opinion that if we are called to these cases in time, and use oleum terebinthinæ in as large doses as is compatible with safety that, along with good general care, it is almost a specific in the treatment of azoturia.

G. J. McDonald.

Saskatchewan.

2. *Subject*—a black mare, weight about 1500 pounds, eight years old. Suffering from azoturia, had been down six hours. Treatment—made comfortable, drew off urine, etc., administered oleum terebinthinæ, two ounces, oleum lini one pint, as drench; gave aloes one ounce and calomel one dram in ball, four hours later gave oleum terebinthinæ, one ounce, in milk, two ounces; three hours later repeated the last dose. Two hours later mare regained her feet, and had completely recovered in two days.

In seven cases treated during the past three years oleum terebinthinæ was used with excellent results, with one exception, and in this case the animal had been down for about twenty hours before I saw him.

F. R. Stubbs, V. S.

Toronto, Ont.

3. I have treated six cases of azoturia during the past month with the treatment you suggested, viz., turpentine internally and externally, and have had a recovery in each case, none of the attacks lasting longer than four days. One of them had been down for ten hours. I applied hot blankets, and in each case gave arecoline and strychnine, of each one grain. I have used adrenalin and have had good results, but not nearly such rapid recoveries.

In conclusion I would say that I think it the best possible treatment for azoturia. I may add that in one case I used eight ounces of oleum terebinthinæ in twenty-four hours.

H. V. Markham, V. S.

Yorkton, Saskatchewan.

The foregoing are but a few of the many hundreds of cases that have been treated by this method with so far as I can learn, results approximately the same throughout the whole list. As stated at the beginning of this article I attribute the fact that I have not lost a patient from azoturia in twelve years partly to good fortune, but I credit the recovery of many a one solely to this line of treatment.

J. N. Pringle, M. R. C. V. S.

Toronto, Ont.

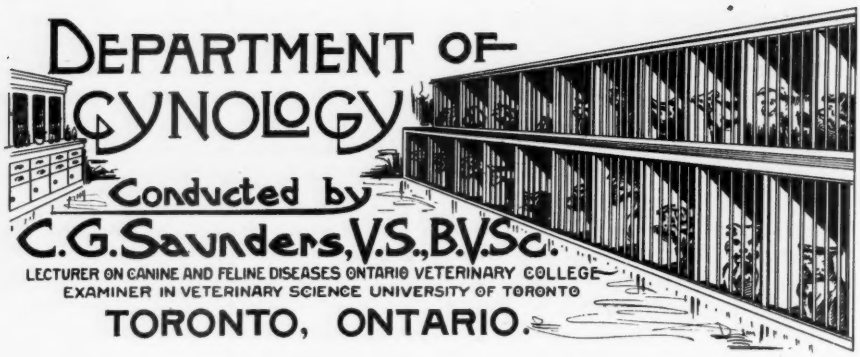
ADRENALIN IN OSTEOMALACIA

I should like to know what results your readers have had with adrenalin in cases of osteomalacia and also with any other tried, beneficial treatment for same.

——, Virginia. R. J. V., V. S.

ARE YOU GOING TO BUILD A HOSPITAL?

We should be pleased to receive for publication blueprints and specifications for veterinary hospitals suitable for use in general practice. Likewise, drawings of tables and stocks and other equipments for hospitals.



Diseases of the Dog

EDITOR'S NOTE.—Below we begin a long treatise on canine medicine, for which there has been a great demand. In this issue, only the foundation is laid for the discussions that are to follow and much of this installment is, therefore, necessarily elemental; but do not assume that succeeding installments will likewise deal only with primary subjects in this phase of veterinary practice. No one is better qualified to handle this subject than is Doctor Saunders, who has given the diseases and surgery of the dog deep study, has for years taught these subjects in the Ontario Veterinary College, has long possessed and now enjoys a large canine practice, and is withal an experienced writer on these subjects, of concise and pleasing manner. Every reader is urged to contribute to these discussions by comment on, and criticism of, the articles as published and by sending us case reports from his own practice. Readers are also invited to ask any questions they see fit regarding the discussions, or as to diagnosis of obscure cases or the treatment of unusual cases in their own practice. Send discussions, comments, criticisms and case reports to VETERINARY MEDICINE; *send inquiries direct to Dr. C. G. Saunders, 419 Spadina Ave., Toronto. No questions can be answered by mail, all replies will appear in* VETERINARY MEDICINE.

THE examination of a sick dog must be made carefully so that a correct diagnosis of its condition may be arrived at, as on this the treatment and ultimate result largely depends. In this preliminary examination, the animal must be handled gently but firmly, and so secured that it can do no injury to the veterinarian or his assistants. In every case, unless the animal is known to be a quiet one, its jaws should be secured either by a muzzle or a clove hitch placed around its jaws. The non-observance of this precaution has led repeatedly to painful injuries, and in several instances in the writer's experience has made necessary a visit to the hospital for the Pasteur treatment.

The physical condition of the patient, and its mental attitude should be noted. Its appetite, diet, etc., and the condition of the bowels and urinary apparatus should be enquired into. The temperature and rate and character of the pulse and the respiration should be noted. The nose of a well dog is moist and cool, in a sick one it is usually hot and dry. The skin, normally, is loose and supple, and the hair bright and lustrous; in disease, on the other hand, the skin becomes dry, often hot to the touch, maybe the site of eruptions and in some places be devoid of hair. In wasting disease, skin ailments and digestive derangements the hair feels harsh and dry, is stary in appearance, often brittle or easily pulled from the follicles. The condition and color of the visible mucous membranes are often valuable guides to diagnosis and should be examined always. The character and amount of any discharge from the eyes and natural openings of the body must on no account be overlooked.

Having made this general examination

of the patient, a more searching and specialized one is next carried out. The information obtained by the general examination will determine what organ or organs it is necessary to examine more closely.

If the lungs, bronchial tubes or pleuræ are suspected the special examination consists of auscultation and percussion to determine what abnormalities, if any, are present. The abdomen should be palpated, auscultated to determine the absence or presence of peristalsis and moderate pressure applied over the abdominal walls to discover any unusual tenderness or tenseness of the abdominal walls. The eyes should be carefully scrutinized, and the action of the pupils noted, to learn whether the dilation is equal or unequal.

The writer cannot urge too strongly that throughout the examination all gentleness and consideration be shown the patient, both for humane reasons and for ethical ones and for the further reasons that success in dog practice depends in no mean degree upon one's ability to "get along" with the women folk and win the confidence of their canine pets, both of which are impossible if the dog is handled roughly during the examination.

The Administration of Medicines

Medicine may be administered as to other animals, by the mouth, hypodermically, intravenously and by the rectum. The first two methods except in exceptional cases are the ones most frequently practiced.

By the Mouth.—Medicine in solution, in emulsion, and in pill or tablet form, may be given orally but the two latter are by far the most convenient form for method of administration. To administer a pill or tablet the animal is either held by an assistant or steadied against the operator's legs; the left hand is placed over the upper jaw and the cheeks pressed against the teeth, the under jaw is gently depressed by the first finger of the right hand, as the mouth opens, pressure is maintained by the fingers of the left hand thereby forcing the cheeks between the molars and effectually preventing the mouth closing; the pill or tablet is then placed well back on the animal's tongue and the mouth allowed to close.

In cases where it is desirable to administer the medicament in liquid form, the dose should be regulated so as to be of as small quantity as possible, except, of course, where irritant drugs are exhibited in which case they must be properly diluted to avoid irritation of the buccal mucous membrane. The medicine being already placed in a teaspoon, syringe or other convenient receptacle the animal's mouth is closed, either by an assistant holding the jaws closely together or by tying them together with tape; the index finger of the left hand is then introduced at the corner of the lips and the cheeks pulled outwards to form a pocket into which the medicine should be poured slowly until the animal has taken the required dose.

The Hypodermic Method.—This is one of the most effectual methods of administration where quick absorption with consequently quick results are desired. The requirements are, non-irritating and easily soluble drugs, small calibre needles and a twenty-minim syringe preferably an all-metal one because such are easily sterilized. The site of injection is of no importance provided that the skin be loose and thin and for this reason the region of the scapula is generally selected. The site of injection should be painted with tincture iodine to disinfect it; the needle and syringe should be sterilized by boiling, and the drug completely dissolved in distilled water. Unless all of these precautions are taken, an abscess at the site of puncture may result. The syringe being filled, the skin is pinched up by the index finger and the thumb of the left hand and the needle pushed quickly through the skin into the subcutaneous tissues, with the right hand, the syringe is then attached and its contents evacuated slowly.

The Intravenous Method.—This method is not used extensively in dog-practice, but is coming more into vogue than formerly. The skin over the vein selected for the injection, usually the auricular vein, must be most carefully disinfected before the needle is inserted. The needle and the syringe must also have been sterilized, distilled water should be used for the solvent and the drug must be *completely* dissolved to avoid embolism with its attendant dangers.

The temperature of the solution should be raised to the temperature of the animal and great care exercised in introducing the needle into the vein. *All* air must be expelled from the syringe *before* injecting and the injection made slowly.

By the Rectum.—Medicine is administered by the rectum chiefly in the form of suppositories for the treatment of some local conditions such as hemorrhoids, although both ether and chloral may be given by this method to induce anesthesia. The rectum is first emptied by an enema of warm soapy water, the suppository introduced manually or the liquid injected by means of a syringe. [Rectal injections to remove feces, to lower temperature and for other purposes may also be considered as medication by the rectum.]

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[Next month, affections of the nasal passages.—ED.]

GOOD OLE HOUN' DOG MINE

By O'NEAL WATSON

(Tune—"Old Folks at Home")

I'se got no fren's dat I kin trus',
Do' some talk mighty fine;
Dere's just dis one I look to fus',
Dis good ole houn' dog mine.

CHORUS

Dis good ole houn' dog mine,
I'll trus' 'im eb'ry time.
He lubs me—doan' you hear 'im whine?
Dis good ole houn' dog mine.

Dar's fren's aroun' when I'se in luck,
An' when I aint, dey's gwine;
But dis ole dog has always stuck.
Dis good ole houn' dog mine.

When I pars on to Jordan's shore,
An' with de angels j'ine,
I'll ask ob dem, "Please ope de door
For dis houn' dog ob mine."

Copyright, 1913, by O'Neal Watson.

"SALMON POISONING" IN DOGS

Each year a considerable number of dogs die in the Pacific Northwest of what is commonly known as "salmon poisoning." This is especially true of the country tributary to the Puget Sound, and of sections drained by tributaries of the Columbia river.

Every practicing veterinarian in this section knows of the disease, and has a considerable number of cases brought to them at one time and another, and yet it is surprising how few really know anything of the disease from its pathological or scientific standpoint.

There is some good excuse for this, for as far as I know at least, nothing has ever been published in any veterinary text book or publication, dealing with the disease.

The disease is generally fatal, and the theories advanced by veterinarians and laymen alike are as numerous as many of them are amusing, while the remedies suggested range all the way from "ball blueing" to and through the entire range of the pharmacopeia. The most common theory as to the etiology of the disease is that it arises from the eating of "dog salmon," but as many dogs eat largely of this fish and do not show any signs of poisoning, it fails to satisfy any interested investigator.

Shortly after coming to the state of Washington to practice, this disease was brought to my attention, and later I unsuccessfully attempted to relieve a case, already far advanced. This case I did not get to perform an autopsy on, although it died. Later, my own dog followed the first case over the "River Jordan," and I began to get interested. Inquiry among my veterinary friends, and from the Oregon and Washington State Schools did not furnish the desired information, but I was finally fortunate in having brought to my notice the researches of Prof. Emile F. Pernot, bacteriologist of the Oregon State Board of Health.

Prof. Pernot has made a very thorough and careful investigation of the disease, making many cultures, inoculating a number of dogs, and performing a service which should win him the thanks of every veterinary practitioner, who now is, or later may be engaged in practice in Washington and Oregon. Whatever information is contained in this article is due to his efforts, and should be credited to him.

The symptoms of the disease are as follows:

About nine days after the dog has consumed the fish, he begins to show violent digestive disorder, accompanied by a disturbance of the bowels, manifested in some by diarrhea, but oftener by constipation. The appetite is entirely lost, the unfortunate animal becomes mopish and ex-

cludes himself from all society. Water is drank in considerable quantities, the temperature is subnormal or normal, after the first day or two of sickness, and the animal rapidly becomes emaciated. As the disease progresses diarrhea becomes more marked, until it becomes an almost constant flow of bloody mucus. About eight or nine days after the first signs of disorder, the animal usually dies, frequently in convulsions. Proctitis is present in the later stages, and the mouth is cold and clammy. The discharges have a peculiar and sickening odor.

Prof. Pernot's investigations disclosed the fact that the disease is not a true poisoning, but is caused by ameba. These ameba are found in salmon, trout and occasionally other fish after (never before) they enter fresh water. These ameba are evidently not pathogenic for the fish, and are found almost entirely in the black (or veinous) blood along the backbone. They are visible as minute white specks to the naked eye, and under the microscope show up as round, encysted bodies, with an opaque center. Some movement is noticed. I do not know whether these ameba have every been classified.

Previous investigations of the Oregon Agricultural College are said to have failed because salmon and other fish taken directly from salt water were used.

This discovery by Prof. Pernot was not reached in a minute, but only after making numerous cultures of various bacteria, and after other discouraging research. That the ameba are the etiological factor, was proven by inoculation, both directly from the fish, and from one dog to another.

On postmortem, the absence of *rigor mortis* is the first thing noticed. Lesions are found principally in the heart and intestinal tract. The heart is shrunken and hardened, lungs usually collapsed; the liver is usually normal, or slightly enlarged; rose-colored spots are found from the stomach back to the large intestine, both are highly congested and often ulcerated. The spleen is usually enlarged. Many other lesions are found in various individuals, but the above seem to be fairly constant.

The most successful treatment is an emetic given in the first stage, or appearance, of the disease. Calomel, if given in large doses, not later than the third day, gives better results than anything else so far tried. In the later stages, calomel often not only fails to give relief, but hastens the demise of the patient. Symptomatic treatment seems to be inadequate to give the slightest relief. Laudanum, bismuth subnitrate, and similar agents failed (in my hands, at least) to have the slightest effect on the diarrhea.

Illustrating the type of "immunity" usually conferred by an attack of "Salmon Poisoning" in Dogs

While there are no statistics, the number of dogs which die from this trouble is probably larger than from any other one factor that Northwestern veterinarians have to deal with. Now that Prof. Pernot has furnished us with the true cause of the disease, surely the profession should vin-

dicate itself by advancing along the line of treatment. One attack is said to confer an immunity. This has been too true in my observation, as the graves of my patients will testify! CLIFF C. ACKLEY.

Kelso, Wash.

Newspaper Comment

THE Illinois Veterinary Medical and Surgical Association at their annual meeting in Decatur in January chose F. J. Bliss, of Earlville, president; R. F. Reed, Hazel Dell, first vice president, and W. Smith, Finlay, second vice president; W. A. Swain, Mt. Pulaski, secretary, and V. G. Hunt, Arcola, treasurer.

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TWENTY-EIGHT new members were added to the roll of the organization of the Nebraska Veterinary Medical Association at their recent meeting in Lincoln. The society now has more than 150 members. Dr. Carl J. Norden of Nebraska City was elected secretary.

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DR. GUY G. CHANDLER has bought the interest of Dr. Ridgeway in the firm of Ridgeway & Chattin, veterinary surgeons at Washington, Indiana. Dr. Leo Gootee will succeed Dr. Chandler at Loogootee, Indiana.

—

DR. JOSEPH KAGLE is a new veterinarian at Mount Ridge, Kansas, having moved there from Garden City, Kansas, recently.

—

DR. G. C. SHAW has purchased the property and practice of Dr. George Mellinbruch, of Washington, Kansas. Dr. Shaw has been located until recently at Montrose, Colorado.

—

DR. GROVER V. LOVE, a graduate of the McKillip Veterinary College, has moved from Delphi to Chalmers, Indiana, and is located in the latter city for practice.

—

DR. GEO. R. MILLER, of Kansas City, has located for practice in Utica, Nebraska.

—

DR. MATT T. LAIR, formerly in partnership with Dr. James H. Hogan in veterinary practice in Preston, Minnesota, has disposed of his interest in partnership and is located at Alexis in the same state.

—

DR. R. R. REINHARDT, graduate of the Agricultural and Mechanical College at Raleigh, South Carolina, and of the Kansas City Veterinary College, Kansas City, Missouri, in the class of 1912, has located for practice in his home town of Lincolnton, N. C.

—

DR. W. K. DENISON, formerly of Wadena, Minnesota, has recently located at Bemidji. Doctor Denison is a graduate of the Chicago Veterinary College.

—

DR. H. L. STEWART, who has been practicing in Lacona, Iowa, for the past twelve years, has formed a partnership with his brother, Dr. C. E., of Chariton, Iowa. The new firm of Stewart & Stewart will erect a thoroughly modern hospital in the latter city.

—

The Milwaukee Sentinel of February 14th is authority for the statement that Prof. H. L. Russell, director and dean of the Agricultural Experiment Station of the College of Agriculture of the University, has distributed to the farmers of Wisconsin during the period from 1906 to 1913 tuberculin sufficient for testing 356,611 cattle. The agricultural college now has a stock of 6,500 doses of tuberculin on hand.

—

DR. H. SCHMIDT, a recent graduate of the veterinary college of Munich, Germany, has been appointed on the staff of the Texas Agricultural Experiment Station and Agricultural and Mechanical College. Doctor Schmidt will devote all his time to research work, beginning with the investigation of Texas fever among cattle and infectious anemia among horses, both of which diseases are prevalent in Texas.

This increases the veterinarians on the staff of the Texas Agricultural Experiment Station to three, Dr. M. Francis and Dr. R. P. Marsteller being already members of the force.

—

DR. C. M. WRIGHT, of Paris, Illinois, is traveling about the country, giving a course of instruction in veterinary science in various small cities. It requires three days to take the course. The charge for tuition is five dollars.

—

DR. WALTER SHAW has been appointed veterinarian for the board of health in Dayton, Ohio. It is expected to establish a municipal slaughterhouse in Dayton and to have an adequate meat inspection.

—

DR. C. C. DOBSON from New Augusta, Indiana, has recently gone into partnership with Dr. O. L. Boor of Muncie, Indiana.

—

THE following are the officers of the Oklahoma Veterinary Medical Association for the coming year as chosen at their recent meeting in Oklahoma City:

Ben Dobkins, president; W. H. Martin, vice president; C. E. Steele, secretary; C. C. Hooker, treasurer.

—

DR. J. G. HEIGHWAY, of Lodoga, was elected president; Dr. W. J. Armour, Goshen, vice president; A. F. Nelson, Lebanon, secretary, and J. W. Llotz, Nobelsville, treasurer of the Indiana Veterinary Medical Association at their recent annual meeting in Indianapolis.

Papers were presented at this meeting by Drs. E. T. Favis, Plainfield; T. A. Sigler, Greencastle; W. F. Meyers, Ft. Wayne; H. A. Miller, Paragon; J. C. McDaniel, Elwood; W. D. Gerber, Clay City; C. I. Fleming, Terre Haute; J. H. Mills, Russiaville; O. G. Whitestine, Huntington; and G. H. Roberts, Indianapolis.

The Association went on record as opposed to the free distribution of hog-cholera serum by the state.

—

AN Italian woman, traveling alone to Chicago to rejoin her husband, gave birth to a child in a Grand Trunk train as it was passing through the tunnel under the St. Clair river.

There was no physician on the train, and a veterinary surgeon [Dr. A. A. Etienne, Montreal, Que.] traveling from a Canadian city officiated. A purse of $200 was collected for the mother and her child, on the hat being passed around among the passengers.

—

THE San Francisco Board of Health has authorized the San Francisco Veterinary College and Hospital to move its stables and clinic from 1818 Market street to a site on Mission street, north of Duboce avenue. The college has 200 students of the veterinary science on its register and keeps fourteen horses.

—

DR. C. A. BROWN, formerly a veterinary inspector of the Bureau of Animal Industry, of St. Joe and more recently in Santiago, California, has resigned from the B. A. I. and accepted a position as city milk inspector of the latter city.

—

THE farmers and other stock owners about Peoria, Illinois, are invited to visit the new veterinary hospital erected in that city by Dr. F. R. Whipple.

The building is a two-story one of brick and stone construction, heated by hot water, and has sanitary plumbing throughout. The operating room has a skylight, a new Conkey operating table, and every modern appliance. The building contains three offices and a well-stocked drug room. Dr. Whipple announces that he has arranged to administer rabies vaccine to animals bitten by rabid animals.

—

A CIRCULAR letter sent out by the Young Men's Christian Association of the Kansas City Veterinary College is authority for the statement that the Association's membership numbers 233 students, including 72 percent of the freshmen class. A record of the service department shows that 248 students were helped during the year in getting located in suitable rooming and boarding houses. Thirty-five students were aided in securing employment, and personal visits were made to a large number of students during confinement to their rooms

on account of illness. The average attendance at the regular weekly meetings of the association during the year has been over 200. Several social entertainments have been held with a large attendance and the Glee Club of twenty voices is doing good work.

All college athletic features have been placed under the general directions of the Y. M. C. A. and much interest has been aroused and creditable work done in foot ball and in indoor athletics.

—

DR. J. J. L. HELDRING, of Pullman, Washington, committed suicide recently by shooting himself through the head. Dr. Heldring was until last June professor of materia medica in the Washington State College, and as there was not work enough for all the men on the faculty of this school, Dr. Heldring's work was transferred to Dr. S. B. Nelson, state veterinarian. Brooding over his fancied wrongs at the hands of Dr. Nelson was the cause of the suicide.

Dr. Heldring was a native of Holland and thirty-five years old. He leaves a widow and one son eight years old.

—

A TWO-COLUMN, front-page article in the *Richmond* (Mo.) *Conservator* tells of the vaccination of 30,000 hogs by Mr. R. S. Rust, a farmer living near Hardin, Missouri. Mr. Rust and his three sons produced all of his own serum. The paper states that Mr. Rust has made numerous trips to the experiment station at Columbia, Missouri, and gained all the knowledge there that he could. It says that Mr. Rust makes no secret of his method and like nearly every scholar who has made research for medical knowledge that will benefit the human race or assist stock raisers is willing to furnish any information he can free of charge. He it is who has broken down the wall of superstition and placed the information regarding the preparation of hog-cholera serum where it will do the most good—in the hands of the farmers.

—

DR. W. H. HOVEY, a veterinarian of Marshall, Michigan, very nearly ended his life recently at the Herndon hotel by taking an overdose of belladonna.

EMIL V. FIELDER, a veterinarian of New York City, who served throughout the Civil War as lieutenant in Company M., Connecticut Cavalry, died recently at his home in Hancock Place at the age of seventy.

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DR. JACK W. HOUSE, a veterinarian of Greenville, Texas, died recently at his home. Dr. House was thirty-two years of age, born in England, and had resided in Greenville for ten years. He died of pneumonia.

—

DR. A. T. ROGERS, of New Haven, Missouri, was thrown from his buggy during a recent storm and lay unconscious all night by the roadside. He died as a result of the exposure.

—

FRIENDS of Louis Hope, who live at Middlebury, Vermont, are making inquiries concerning his whereabouts. He has been gone for forty-five years, and is believed to be practicing veterinary medicone somewhere in Washington state.

—

DR. J. E. BEATTIE, a veterinarian of Grand Rapids, Wisconsin, was found dead near Port Edwards during a recent cold spell. His body was frozen and it is supposed he fell on his way home. He leaves a wife and four small children.

—

DR. SAMUEL HECOX was struck by a train and killed while crossing the railroad near Wayland, Missouri.

—

DR. BARNHART, a veterinarian of Earlton, Kansas, was recently killed by a kick from a horse.

—

MR. J. A. SWEET, of near Martinsville, Illinois, was recently tried on a charge of practicing veterinary medicine and surgery without a license. The defendant claimed that his practice has been under the direction of his father, who is a licensed veterinarian, and he was discharged by the court.

—

DR. L. E. CHANEY, of Oroville, Montana, was recently lost during a blinding snow storm in the mountains and wandered for

hours. He reached a prospector's cabin and a fire just in time to save his life.

—

JOHN HART, a veterinarian of Norfolk, Nebraska, was sentenced to eight months in the state penitentiary at Sioux Falls, South Dakota, following his plea of guilty to a charge of embezzlement. Hart rented a livery team and drove to Watertown, where he sold the team, converting the money to his own use.

—

TWO-THIRDS of the total membership of the Montana Veterinary Medical Association was present at their recent meeting in Bozeman. Papers were read by Dr. M. S. Gray, of Red Lodge, J. C. D. Wipf of Belgrade, and C. E. Stevens, of Missoula.

—

THE following applicants for license to practice veterinary medicine in Virginia, were examined at a recent meeting of the State Board: A. W. Miller, Bridgewater, Va.; R. E. Long, Hot Springs, Va.; L. K. Spitlu, Washington, D. C.; B. L. Poole, Herndon, Va.; H. C. Givens, Washington, D. C., John Lee Cox, Norton, Va.; R. C. Christman, Washington, D. C.; G. L. Houchins, Martinsville, Va.; M. M. Brown, Washington, D. C.

The members of the examining board are: Dr. S. C. Neff, Staunton, president; Dr. H. Bannister, Roanoke, secretary; Dr. Thomas Frazier, Richmond, Dr. R. R. Clark, Hampton, and Dr. H. S. Willis, Rapidan.

—

THE following officers were elected by the North Dakota State Veterinary Medical Association at their recent meeting in Fargo:

Vice president, Dr. F. S. Cussick, Carrington, N. D.; secretary, Dr. C. H. Babcock, New Rockford, N. D.; treasurer, Dr. B. C. Taylor, Hillsboro, N. D.

—

AT THE recent annual meeting of the State Veterinary Examining Board in Topeka, the following applicants were examined for license to practice veterinary medicine in Kansas.

J. C. Barnes, Kansas City; John Pugh, Wilson; Charles B. Wilson, Tyro; A. T. Cassity, Fredonia; Henry Steinbrook, Chester Brown, Pittsburg; E. M. Beckley, Scott City; John C. Cone, Lyons; W. B. Fee, Sylvia; Albert Toynbee, Morse; C. C. Robinson, Quapaw; Edwin F. Kubin, McPherson; W. J. Hunt, Wetmore; Lee Barnes, Oscaloosa; M. F. Taylor, Colby; Bert L. Cox, Fulton; W. H. Harrel, Utica; C. A. Schulz, Leavenworth,; H. W. Oliver, Macksville; J. M. Patrick, J. M. McAllister and W. J. Wallace, Stafford.

The examining board consists of Dr. B. A. Robinson, Independence, president; Dr. O. O. Wolf, Ottawa, secretary; and Dr. A. A. Shetler, Wellington.

—

THE tenth annual meeting of the Central Canada Veterinary Association selected the following officers for the ensuing year:

Hon. pres., Dr. F. Torrance, Veterinary Director General, Ottawa; president, Dr. G. Hilton, Ottawa; vice president, Dr. R. T. O'Hara, Maxville, Ont.; secretary-treasurer, A. E. James, Ottawa.

Papers were presented by Dr. Higgins on Bacterial Vaccines, by Dr. Evans on Anesthesia, and the necessity for its employment in all operations, by Dr. A. B. Wickware on Rabies, and by Dr. Kennedy on Canker.

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THE annual winter meeting of the Minnesota Veterinary Medical Association was held in St. Paul and the following officers were elected for the coming year.

M. R. Higbee, Albert Lea, president; R. LaPointe, St. Peter, first vice president; C. S. Shore, Lake City, second vice president; G. Ed. Leech, Winona, secretary and treasurer.

The new board of directors comprises: J. N. Gould, Worthington; R. P. Dodds, Lake Crystal; and C. E. Cotton, Minneapolis.

MRS. CRANE ATTACKS THE B. A. I.

(*Continued from page 213.*)

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on account of illness. The average attendance at the regular weekly meetings of the association during the year has been over 200. Several social entertainments have been held with a large attendance and the Glee Club of twenty voices is doing good work.

All college athletic features have been placed under the general directions of the Y. M. C. A. and much interest has been aroused and creditable work done in foot ball and in indoor athletics.

—

DR. J. J. L. HELDRING, of Pullman, Washington, committed suicide recently by shooting himself through the head. Dr. Heldring was until last June professor of materia medica in the Washington State College, and as there was not work enough for all the men on the faculty of this school, Dr. Heldring's work was transferred to Dr. S. B. Nelson, state veterinarian. Brooding over his fancied wrongs at the hands of Dr. Nelson was the cause of the suicide.

Dr. Heldring was a native of Holland and thirty-five years old. He leaves a widow and one son eight years old.

—

A TWO-COLUMN, front-page article in the *Richmond* (Mo.) *Conservator* tells of the vaccination of 30,000 hogs by Mr. R. S. Rust, a farmer living near Hardin, Missouri. Mr. Rust and his three sons produced all of his own serum. The paper states that Mr. Rust has made numerous trips to the experiment station at Columbia, Missouri, and gained all the knowledge there that he could. It says that Mr. Rust makes no secret of his method and like nearly every scholar who has made research for medical knowledge that will benefit the human race or assist stock raisers is willing to furnish any information he can free of charge. He it is who has broken down the wall of superstition and placed the information regarding the preparation of hog-cholera serum where it will do the most good—in the hands of the farmers.

—

DR. W. H. HOVEY, a veterinarian of Marshall, Michigan, very nearly ended his life recently at the Herndon hotel by taking an overdose of belladonna.

EMIL V. FIELDER, a veterinarian of New York City, who served throughout the Civil War as lieutenant in Company M., Connecticut Cavalry, died recently at his home in Hancock Place at the age of seventy.

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DR. JACK W. HOUSE, a veterinarian of Greenville, Texas, died recently at his home. Dr. House was thirty-two years of age, born in England, and had resided in Greenville for ten years. He died of pneumonia.

—

DR. A. T. ROGERS, of New Haven, Missouri, was thrown from his buggy during a recent storm and lay unconscious all night by the roadside. He died as a result of the exposure.

—

FRIENDS of Louis Hope, who live at Middlebury, Vermont, are making inquiries concerning his whereabouts. He has been gone for forty-five years, and is believed to be practicing veterinary medicone somewhere in Washington state.

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DR. J. E. BEATTIE, a veterinarian of Grand Rapids, Wisconsin, was found dead near Port Edwards during a recent cold spell. His body was frozen and it is supposed he fell on his way home. He leaves a wife and four small children.

—

DR. SAMUEL HECOX was struck by a train and killed while crossing the railroad near Wayland, Missouri.

—

DR. BARNHART, a veterinarian of Earlton, Kansas, was recently killed by a kick from a horse.

—

MR. J. A. SWEET, of near Martinsville, Illinois, was recently tried on a charge of practicing veterinary medicine and surgery without a license. The defendant claimed that his practice has been under the direction of his father, who is a licensed veterinarian, and he was discharged by the court.

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DR. L. E. CHANEY, of Oroville, Montana, was recently lost during a blinding snow storm in the mountains and wandered for

hours. He reached a prospector's cabin and a fire just in time to save his life.

—

JOHN HART, a veterinarian of Norfolk, Nebraska, was sentenced to eight months in the state penitentiary at Sioux Falls, South Dakota, following his plea of guilty to a charge of embezzlement. Hart rented a livery team and drove to Watertown, where he sold the team, converting the money to his own use.

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TWO-THIRDS of the total membership of the Montana Veterinary Medical Association was present at their recent meeting in Bozeman. Papers were read by Dr. M. S. Gray, of Red Lodge, J. C. D. Wipf of Belgrade, and C. E. Stevens, of Missoula.

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THE following applicants for license to practice veterinary medicine in Virginia, were examined at a recent meeting of the State Board: A. W. Miller, Bridgewater, Va.; R. E. Long, Hot Springs, Va.; L. K. Spitlu, Washington, D. C.; B. L. Poole, Herndon, Va.; H. C. Givens, Washington, D. C., John Lee Cox, Norton, Va.; R. C. Christman, Washington, D. C.; G. L. Houchins, Martinsville, Va.; M. M. Brown, Washington, D. C.

The members of the examining board are: Dr. S. C. Neff, Staunton, president; Dr. H. Bannister, Roanoke, secretary; Dr. Thomas Frazier, Richmond, Dr. R. R. Clark, Hampton, and Dr. H. S. Willis, Rapidan.

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THE following officers were elected by the North Dakota State Veterinary Medical Association at their recent meeting in Fargo:

Vice president, Dr. F. S. Cussick, Carrington, N. D.; secretary, Dr. C. H. Babcock, New Rockford, N. D.; treasurer, Dr. B. C. Taylor, Hillsboro, N. D.

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AT THE recent annual meeting of the State Veterinary Examining Board in Topeka, the following applicants were examined for license to practice veterinary medicine in Kansas.

J. C. Barnes, Kansas City; John Pugh, Wilson; Charles B. Wilson, Tyro; A. T. Cassity, Fredonia; Henry Steinbrook, Chester Brown, Pittsburg; E. M. Beckley, Scott City; John C. Cone, Lyons; W. B. Fee, Sylvia; Albert Toynbee, Morse; C. C. Robinson, Quapaw; Edwin F. Kubin, McPherson; W. J. Hunt, Wetmore; Lee Barnes, Oscaloosa; M. F. Taylor, Colby; Bert L. Cox, Fulton; W. H. Harrel, Utica; C. A. Schulz, Leavenworth,; H. W. Oliver, Macksville; J. M. Patrick, J. M. McAllister and W. J. Wallace, Stafford.

The examining board consists of Dr. B. A. Robinson, Independence, president; Dr. O. O. Wolf, Ottawa, secretary; and Dr. A. A. Shetler, Wellington.

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Nan

By GORDON G. BURDICK, M. D., Chicago, Illinois

He slammed the pen down on the desk and having risen to his feet, he confronted me boldly. "Have you no decency, to smoke in the house of God," he stormed.

"Now, don't get excited, Dominie, there is no danger of God and you being in the same building at the same time," I said lazily, knocking the ashes off on his carpet for the benefit of any scandal-mongers in his congregation.

"I was never so insulted in my whole life," he fumed.

"No, probably not," I remarked. "But you will be if big Jim Watson happens to catch you in his house at one a. m., while he is supposed to be out on his engine."

"It is a lie," he bellowed, while his face was as white as a tombstone.

"Yes, may be," I remarked calmly, "but it is one of those lies that can be proved in court. My assistant and I saw the whole proceedings."

"Where were you?" he asked, incautiously.

"Who, me?" I asked innocently. "Oh, yes, we were on the back porch sitting on the refrigerator smoking a cigar while we were awaiting a belated stork in the Small family next door."

If I had given him a solar plexus blow, he could not have been more stunned. I smoked steadily on, totally oblivious to the sensation my words had produced, but I kept a weather eye on my victim, as he was fingering a sharp paper knife, and thinking unchristian thoughts.

After what seemed like ages he gave a long sigh and said in a strained voice, "What do you want me to do?"

"Oh, nothing, except just what any decent man would do; go down to Aunt Mary 's and square this matter for me."

"I won't," he said boldly.

"Well, I am sorry, as it leaves me only one alternative. I shall have to start in and dust the furniture with you; so if that is your decision, we might just as well start in now as later."

I sprung to my feet and advanced on him while he retreated holding his hands before him. It was probably the first time in his life that he was in danger of bodily injury, and the thought terrified him. He had relied on his office to protect him, and he could not see what manner of man it was, who disregarded the office and saw only the man. He began to whine piteously, and promised he would do what I wanted him to do the first thing in the morning.

"I am afraid to trust you," I replied, "and I think I had better help you to break up some of the furniture first, so you will have the proper spirit, and won't get to praying in the meantime, and get a hunch from the wrong party."

"Honest and truly," he said, "I will do what I can to straighten out the trouble."

"Well," I answered, as if disappointed at his decision, "I will give you your chance, if you fail me we can have our try-out some time in the future, so good-night. I will trust you once and once only."

I went away well satisfied with my interview, with no misgivings as to the outcome. He was a craven, and to save his hide he would do all in his power to quiet things down at Aunt Mary's house, and I felt he would be successful as this good woman never saw the man but always the office.

It turned out as I expected; he went down and inflated her with her Christian duty to the poor child, until the prospects for Nan seemed dark, as she was the star listener at family prayer meetings, while a good sized section of the Bible was marked out for her to learn daily. I did not half like the arrangements, and persuaded Aunt Mary to cut it down to a chapter a day as I wanted her to get all the English education she could.

Things began to work smoothly again and we resumed our old relations, but Aunt Mary was getting moody and melancholy, a condition that came on more frequently of late, since her arrest. She never got over the disgrace of a colonel's daughter having been arrested for shop-lifting. I tried to tell her that there was no special disgrace in being arrested, as it was a privilege granted to freemen by the constitiution, and she should be proud she was distinguished enough to get this great honor. My philosophy did not quite convince her, but it softened the blow considerably, and she did not brood so much over the matter.

I was becoming seriously alarmed by her behavior at times, and began to cast about for some means of diverting her mind with that end in view. I hunted up all of her old Southern friends in the city, and was fortunate enough to find a real Southern colonel who was somewhat run down at the heel, but he was the real article, and by delicately putting some opportunity in his way, he was soon able to improve his appearance, and he loaned his services to me to get up a real Southern birthday party for Aunt Mary where all the guests would be Southerners. I, of course, being the only mongrel among the "quality folks" who were to attend.

AMONG THE MAN-KILLERS

The events of the past few months began to worry me; as I was peaceable by nature and as I had no desire to be constantly in some serious brawl, I began to shape my future course in such a manner as to take me away from the criminal and tough element of my practice, confining my work to the better people and refusing calls from the undesirable.

In this manner I had drifted along comfortably and was congratulating myself that henceforth my life would be free from violence. I had gone on with my plans for Aunt Mary's birthday party and it seemed that it was likely to be a great success.

I had gotten the Colonel a job as a whiskey taster in one of the blending shops found so many times in a dark hall, under some sidewalk. In these places they will take a barrel of alcohol, and various other chemicals and turn out a carload of something that passes for whiskey. The old fellow was putting his whole heart and soul into planning for this Southern party and surely he had many original and virile ideas. I had succeeding in subsidizing as fine a quartette of colored musicians and singers as I have ever heard, and through the Colonel's Southern connections we had obtained the best the Southland afforded in the way of good things to eat.

The only fly in the ointment was his inability to get a "Jug Suah!" of "Mountain Dew," the moonshine whiskey that has made Kentucky famous.

On this question I had balked, and told him distinctly that moonshine whiskey might be all right in Kentucky, where the people were in sympathy with ideals of that kind, but moonshine whiskey in Chicago, means the "pen," if found in your place. I labored long and earnestly with him on the question, and thought I had succeeded in getting the idea out of his head. In this I was mistaken, and only by a run of good luck succeeded in saving a nasty situation.

A tip reached me from a Government officer, who was under great obligations to me, that some moonshine whiskey had found its way to Chicago, and that somehow I was supposed to be connected with the deal. This worried me, as I well knew the United States courts were no joke, where the poor man was concerned, so I started to look up the Colonel and demand an explanation from him. In this I was unsuccessful, and at last went to his room, determined to wait until he returned. This proved to be a nerve-racking occupation, and after a time curiosity led me to look his place over carefully, hoping against hope that I might find the contraband goods. In this I was successful, as the jug was tied by a string to a clotheshook, and was carefully draped with his best suit of clothes. I quickly took the jug and poured its contents down the wash-basin and filling it with water, carefully replaced it in its former position, and retired, well satisfied with my evening 's work. I had been very careful not to mutilate the work or seal, so as to raise no suspicions that the jug had been tampered with.

I had gotten nicely asleep when I was aroused by the telephone bell. It was from the landlord of the rooming house where the Colonel lived and he had been requested to tell me that the old gentleman had been "pinched." I thanked him and went back to bed, serene in the knowledge that for once I had pulled off a good joke on the Government officers, and I knew it was impossible to bail the old man out before he had his hearing before the commissioner on the morrow.

I was there early, represented by as shrewd a legal wolf as could be found in the city. To him I told the whole story, and he chuckled when he realized that he had the ammunition that would confound his oppontents.

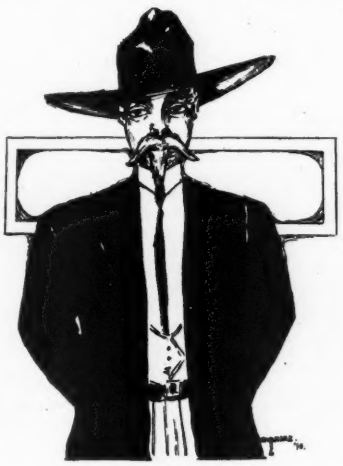
The Colonel pleaded not guilty, and demanded an immediate trial, something the Government attorneys fought long and hard to prevent, and after several hours wasted in wrangling the best they could get was a week to "prepare" their case. A motion to impound the evidence was granted, and the Colonel was admitted to five thousand dollar bail.

In the meantime I was conscious that I was being followed night and day, but didn't realize that the people's money was being used for this purpose. I naturally believed that it had some reference to the events that had taken place before, yet the most careful inquiry failed to locate any special movement to get me, so I was compelled to place a special detective to watching my watchers, in order to find out just who they were and why they stuck so close to me at all times.

He found that they were special officers of the Government, so I felt highly flattered to think that I had so distinguished an escort, with no expense to me. Just why I should have been considered so important in a moonshine whiskey case, passed my understanding, as it must have been evident to them that I did not drink it, yet I was never free from espionage, until the case came up in court, where it was dismissed when the nature of the evidence was found, even the commissioner commenting that there was no law to prevent a man from keeping water in a jug in his room, if he wanted to do it.

The officers were very much chagrined at the turn of affairs, and they knew a trick had been turned, but did not know just how it had been done, and for several years the Colonel and I were honored by an occasional investigation.

About this time an incident happened that had profound effect upon my after life. I was visited one evening by my boot-black, who, with tears in his eyes, asked me to go and see his wife. It seems she had been suffering for two days, and her doctors had not found out what the matter was, neither could they relieve her of her pain. The place where he lived had an evil reputation, and my first impulse was to refuse to go, but I realized that he was very much in earnest and possibly something was wrong, and besides, did you ever stop to realize just why you will do so much for a boot-black or other servant



The Colonel

that you will not do for anyone else? To refuse to do a favor for a servant takes a very strong character.

The delicate compliment they pay, by choosing you, when they know you so well, is inestimable, so I started out to see what I could do to help him in his trouble. I found his wife suffering from biliary colic, and found it necessary to chloroform her, in order to relax the muscular system enough to allow anodyne to work, and had given her morphine to carry her over until the next day when it was expected that we would operate.

Suddenly an altercation started in the adjoining room, with a terrific amount of racket and I stepped to the door and commanded silence. At this, a large colored woman faced about with a look of fury on her face and regarded me with tigeress ferocity. I recognized her as Bessy Moore, the man killer. She had a record of eight men she had killed, and had been sent to the pen three times for murder, only to be pardoned or paroled by the political shysters and idiotic philanthropists who composed the Board. I knew I was in for trouble, and while I was not worried, I dreaded the notoriety of

an attack in this place. She regarded me for a few minutes and it was plain to be seen that she was under the influence of liquor. A quick movement (one I had seen before) raised her skirt and a long murderous razor was pulled out of her stocking. She flourished this in the air and crouching like a cat at bay, began to advance one step at a time towards me, each one carefully calculated. I was alarmed but undaunted, and stooping quickly, I gathered the bed blankets up, and used them as a shield over my left arm, while I grabbed the large water pitcher with my right hand; I sprang towards her, bringing the heavy crockery down on her head with a resounding crash. She fell like a log, yet I was so fearful of treachery that I thought it necessary to give her the peculiar trick of the underworld, so necessary with a drunken and dangerous opponent. This is done by running one foot under the arm of the fallen foe, and using this as a fulcrum, the other foot is placed on the arm about six inches away and the weight placed upon it. The procedure is used so skillfully by many denizens of the underworld that they can cripple an opponent all the way from a week to a month as may be desired.

After I had made sure that she was "safe," I began to examine the injury I had inflicted, and to my astonishment found only a large cut down to the skull, while the latter had by some marvel escaped injury. The force of the blow had made her unconscious, so I began to repair such damages as she had sustained, and had almost completed my task, when she came to her feet as if raised by some invisible power. She stared for a minute blankly at her surroundings until her eyes fell upon me, when with almost incredible quickness she dived into her stocking again, but found herself unable to grasp the knife she had hidden there. She tried the other hand and having no better success gazed at them outstretched before her eyes in astonishment. As she realized her helplessness a demoniac fury seized her and lowering her head she charged at me like a goat. This procedure was repeated several times as I shifted my position each time. She was becoming more terrible in her anger and endeavored to bite and kick, only to be aggravated more and more by my "grin," until she was in a furious rage, and charged at me like a catapult. This time I side-stepped allowing her to go headlong down the stairs.

This put a stop to the rumpus, and when she was carried up stairs I knew it would be many months before she would be in shape to damage anyone, and in the meantime I felt I could put into life some of the indictments that would effectually put her where she would be harmless for a long time to come. Having made both my patients comfortable, I left the place with a heavy heart. I felt that Providence was not kind to me, to place me among these wild beasts, and I made up my mind then and there that it was my last trip among them. I could not understand just why it was my misfortune to be placed among these people. I had never done anything vicious in my life, and desired nothing so much as to get along with my neighbors in peace, yet here I was placed in a public brawl every few weeks in spite of myself. I became so blue and morbid on my way home that hardly realizing where I was I brought up before Aunt Mary's door, and equally unconscious of the time, had given my special ring on the door bell. Aunty stuck her head out of the window, and asked me what was the matter. I told her I wanted to talk, so she came down in her wrapper and we both sat down before the grate fire to talk things over. Our misunderstandings had all passed away, so she knew that something was troubling me, and sat silent as I gazed moodily into the fire. At last I aroused myself sufficiently to ask Aunt Mary why I was always in trouble, even when I tried hardest to keep out?

"My poor boy," she said, soothingly, "you are not to blame. It is the people you live among. Why don't you get away from them? A saint must fight or get killed in this frightful community. I have been so fearful of your getting killed that I have lain awake nights when I knew you were out. Life is too short to spend it among the dregs of humanity."

"What you said, Aunt Mary, is only too true. Still, look at the wonderful experience I am getting among them in a medical way."

"Experience, fiddlesticks!" sniffed Auntie. "What good is that going to do you if some degenerate kills you before you can put it to any useful purpose. Every time you save a life here, or prolong one, you are a bad citizen. These people are like some of the Indians, the only good ones are dead ones. This community should be treated like they do smallpox, by quarantine, and disinfection, or extermination. If is a source of danger to all pure people; a contagious moral disease that is insidious in its onset. It robs us of our ideal, lowers our self-respect and sooner or later inoculates us with its pestilential poison."

This coming from Aunt Mary, who was intensely religious in her mental make up, surprised me and set me to thinking along wholly different lines. We sat and discussed all phases of the subject, from all angles and concluded that the only right course for right-minded people was to change our environment, and I was delegated as a committee of one to select a new .location for her family and mine.

So interested had we become while planning for the futre, that we didn't realize how late it was getting until Nan came bounding down the stairs with a cheery good morning, with a kiss for Aunt Mary and a hug for me. Her bright chatter dispelled the gloom that had gathered around us, and the three of us adjourned to the kitchen to start breakfast, which meal was the first for many months that we had all enjoyed together.

When I left Aunt Mary's I felt that a heavy load had been lifted off my shoulders, and I began looking the town over carefully, for some place that would allow me to locate among decent people for the rest of my natural life and take me away from the turmoil of crime and politics.

In this I was successful (as I thought at the time) as I moved my office into a large apartment building which at that time was occupied by a high class of tenants, while Aunt Mary was moved into a house in the neighborhood, that while modest in size, was still well within her means.

I adopted the simple expedient of moving away and not telling either the neighbors or my patients where I had gone, and so effectual was the method that many of them did not find me for years.

The leisure that was given me while building up a new clientele was utilized in broadening out my practical experience by devoting my time to clinics and hospitals, and thereby laying the foundation of my future success.

LA BELLE

My plans had begun to mature in such a way that it seemed certain that my old Southern birthday party would be a success.

Colonel Jim had succeeded in getting many of

the good things to eat, afforded by the South, as well as many marvelous things to decorate the house. These I have placed in cold storage, and all were in good order for the great event.

Aunt Mary had no suspicion of our intentions, and was becoming more morose and melancholy all the time, and as the time drew near for the event, I began to exercise my ingenuity to devise some means of getting her out of the house long enough to prepare the surprise we had in store for her, but she sidestepped them so skillfully, that I had almost given up in despair when an even happened that not only stirred me to action but helped me with my plans.

I was sitting in my study after a hard day's work, smoking and trying very hard to allow my mind to become blank, when the telephone bell rang violently. For some minutes I did not pay any attention to it, not desiring any further work that particular night, yet so persistent was the annoyance that in self-defense I was compelled to go and see what was wanted.

"Hello, Doc!" said a rough voice that I immediately recognized as one of my former friends in the underworld. "Say! Youse is wanted at Third Avenue."

"Sorry," I said, "I am not any too 'pert' this evening; have them get some one else."

"I say, Doc! That don't go this time, she is a friend of ours."

"Well, who is it?" I asked impatiently.

"Why, La Belle!" said the voice, in an injured tone.

I was conscious of a distinct shock on hearing this name, and my mind ran back rapidly four years when upon a bright sunshiny morning I had my first sight of this wonderful woman.

(To be continued.)

IMPACTION OF THE CECUM

There is nothing in the literary world I enjoy more than reading VETERINARY MEDICINE. The articles published each month are undoubtedly interesting, instructive and helpful.

This is my first attempt to raise a question and I should like to know the opinion of the readers of the Journal on this subject.

I will endeavor to discuss a subject which to me is very interesting and upon which nothing very definite has been accomplished. I am not a specialist or do not consider myself an expert but simply an experienced veterinarian. Probably I can say something from my experience that will be helpful to someone, and as a result we may all profit in our great profession by inquiries and suggestions.

The impaction of the cecum is a difficult subject and one which concerns veterinarians a great deal. I have cured three horses out of seven suffering from impaction of the cecum, and I have never had any difficulty with this trouble in young horses. I cured one case in a horse twenty years old in seventeen days and another one in a horse twenty-two years old in fourteen days, and another in a horse eighteen years old, in seven days.

Symptoms.—I have had horses which had the diarrhea while working, a few hours before taking sick, and then just prior to being sick their bowels seemed in a normal condition. I have also found them constipated. At first it seems to be symptoms of colic and the horse may seem dull for a day or two before being noticed by the owner. At first, if not very careful, veterinarians are likely to think it is impaction of the bowels, and treat it thus. After this treatment, the prolonged dull pain is the first symptom of impaction of the cecum. The horse, too, has a poor appetite, but usually shows a sign of inward fever by being very thirsty. In the first and second stages the pulse and breathing may not be changed.

With this sickness there is more or less chance of rupture of the cecum before death. Before rupture the horse is inclined to be on the move, but when it lays down it stretches out and lays apparently quiet for probably half an hour, without moving, except occasionally raising its head toward the flank. This may be repeated until the rupture occurs. In the last stage the pulse begins to weaken and the animal breathes short. The eyes begin to look haggard and the horse reclines until death relieves him.

In diagnosis of the case I take the temperature and pulse of the horse; then I listen at the flank and run my ear forward as far as the murmur of the intestine goes. Sometimes the sides sound different. If there is a faint sound on the right side I infer it is impaction of the cecum. On examining the rectum and clearing it, we find it will greatly aid in telling whether it is impaction of the cecum, because if this fails to give relief we are sure it is in the cecum. Then I feel for the cecum and it will be very prominent and solid. Under normal conditions it will easily retreat from the hand.

This is my success in treating the cases above mentioned, in which out of seven cases I lost four. The treatment which I used was: one quart of raw linseed oil, one-half ounce of turpentine, one dram

EIMER & AMEND

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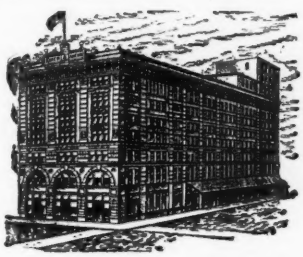

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of fluid extract of nux vomica and all the water with the chill off that the horse would drink. This will help to soften the contents. After three hours I used Abbott's arecoline. If the pain is very great use a quieting tablet.

After the bowels begin to move, the feces are loose and watery, but as the bowels keep acting, the dejecta gets harder until finally it is coated with the oil. Then the murmur in the bowels will plainly be heard to rumble the full length. The oil moistens the contents and helps the arecoline to do its work without causing rupture.

We must give a medicine which will stimulate the muscles of the abdomen, and to give a quick physic would rupture the intestines, and that is the reason for giving the oil before the hypodermic tablet. I always start on one-half grain of arecoline, and then increase as the case goes on.

There may be some objections to my plan, but any criticisms will be received gratefully. We will all profit by a round-table discussion.

D. L. PAINTER.

Dunkirk, Ind.

DOGS AS FOOD

In Germany, dog flesh has been permitted to be sold as an article of food since 1900. In the following year a dog butcher established himself in Dessau. In 1896 Saxony consumed a little over four hundred dogs on the sly; but five years later over two thousand five hundred, and in 1909 no less than fifty thousand, were eaten openly in the same locality. They still call it the "sad meal."

—*The Animals' Guardian.*

TETANUS TREATED WITH ANTITOXIN

There seems to be no doubt that the antitoxin treatment for tetanus is beneficial, but the amount of the serum that should be used is the question. Most contributors to VETERINARY MEDICINE seem to advise large doses and often, but in my mind the question arises, won't less quantities answer just as well?

August 17, 1912, my attention was called to a black eight-year-old mare, weighing 1250 pounds

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AMERICAN JOURNAL OF VETERINARY MEDICINE, 1761 Lawrence Ave., Chicago

She was drawing a load to a double hitch and had caught cold and had been walking stiff in gait for about four days. She had a high temperature, the nostrils were distended, the tail arched, the intercostal spaces rigid, head held high, neck stiff.

I sent her to stable and during the first five hours gave her 3000 units of tetanus antitoxin, with dram doses of tincture of gelseminine, and fluid extract cannabis indica, alternated every three hours. Twelve hours later I gave 3000 more units antitoxin. Ordered mashes three times a day, well salted, and fresh water constantly in manger, and gave potassium nitrate, one teaspoonful in drinking water three times a day, or in mash. This mare was allowed to walk each day a few rods, perhaps thirty.

This mare took altogether 24,000 units of tetanus antitoxin, two ounces of gelseminine, four ounces of cannabis indica and after three months showed very little stiffness when walking, but could not get her head to the floor nearer than ten inches.

December 1st the mare resumed work beside her mate and has since shown no ill effects from the disease or the treatment. The question in my mind is, does it require large doses of the serum to get the desired results in the treatment of tetanus?

J. F. B.

——, Maine.

WANTED: A REMEDY FOR DIARRHEA IN HORSES

I am very anxious to learn of a satisfactory treatment for diarrhea in horses. Some time since I saw an article in which an army veterinarian recommended a few grains of some drug on the tongue, claiming it was a specific cure for superpurgation. I should like to know what this drug is and further information on the subject.

T. A. K.

——, Alabama.

[I regret I cannot give you the specific referred to for diarrhea. However, I can tell you of something "just as good."

For that type of diarrhea in horses due to nervousness (I mean the type that appears after the animal has been driven a few miles, and subsides when it is rested for an hour or so), give orally aconitine in small doses, about 1-72 of a grain, and it may be necessary to repeat this dose in thirty minutes to an hour, but usually one dose is sufficient. Rest the animal for a few minutes, twenty, thirty or even forty-five minutes, and go ahead driving it. There will be no more trouble from diarrhea on that trip.

For that type of diarrhea due to indigestion—to fermentation or putrefaction of the feed or to other irritant products due to bacterial action in the intestinal canal—give sulphocarbolates compound. Ninety grains every three hours will relieve this type of diarrhea in a single day.—Ed.]

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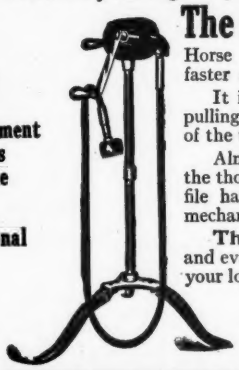

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coating of ice and sleet put the streets into such treacherous condition as to afford an excellent test.

About 100 members of the society were provided with the shoes and stationed at ascents in the streets. When horses were unable to proceed on the slippery footing the shoes were buckled on. After the team reached better footing the shoes were returned to be loaned to others in difficulty. These shoes give a surprising grip, as the weight of the horse forces the rough chain surface into the ice. So pleased were drivers with results that many team owners purchased shoes of this pattern to be carried along in winter for emergency use.

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—*Breeders' Gazette.*

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